

AN ANALYSIS OF THE MUNICIPAL BOND MARKET,
FACTORS INFLUENCING MUNICIPAL BOND
PARTICIPATION

by

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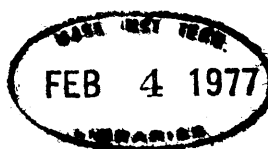
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ABSTRACT

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In recent years, the problems of America's cities and states have become accentuated by rising inflation, increased prices of goods and services, and tremendous fiscal budgets which strain general government finances and challenge the economic viability of cities and states.

One of the most pressing urban problems in America can therefore be seen as a problem of fiscal financing. Within this context, the area most important for study and one which is subject to recent controversy is the Municipal Bond Market. To have a firm understanding of the market and its role in the development of America's urban areas is essential to coping with today's problems.

This thesis analyzes the structure and operation of the municipal bond market to determine the key factors influencing the costs of state and local government borrowing and lender participation. The principle approach is toward minimizing the costs of borrowing for state and local governments by maximizing the efficiency of participating in the "existing" market.

Part I describes the present problems in the market and relates it to the history of municipal bond indebtedness. Part II is a statistical and theoretical analysis of the market's structure. It shows that

an imbalance between supply and demand has increased the costs of borrowing, which has resulted in a tiering of issuers based upon marketability and credit quality. This overall picture of the market outlines the constraints issuers in the market must work under. Given this situation, Part III finally delineates first, the "uncontrollable" factors, or limitations which state and local governments must recognize when placing debt into the market; and second, the "controllable" factors. These controllable factors are divided into two classes; internal factors -- or factors inherent to an issuing government (such as the quality of a general government's management and the soundness of a government's budget) and external factors -- or factors not pre-determined before entering the market (such as good public relations, timing of the debt offering and securing a good credit rating). Recognition of uncontrolled factors and maximizing the utility of controllable factors are the best means by which issuers in the municipal bond market can decrease the costs of borrowing.

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CHAPTER ONE

INTRODUCTION

The means by which state and local governments finance capital expenditures is very important towards the healthy development of America's cities and towns. With population and economic growth in the post World War II period expanding at a tremendous rate, the demand for public facilities and increased expenditures has caused state and local government financing to be one of the fastest growing sectors in the U.S. economy. Since the provision of public facilities generally involves demands for capital far beyond the fiscal capacity of most state and local governments to finance out of current operating expenses, these governments have moved towards debt financing in the municipal bond market to secure the needed capital.

In 1975 with over \$250 billion worth of state and local obligations outstanding, the need to understand the municipal bond market and its operations is of the utmost importance. In fact, if issuers in the market could save one-quarter of one percent, 25 basis points, in the interest paid on just one year's borrowing, this would produce a cost savings to state and local governments of \$1.5 billion. This savings is equivalent to over three-quarters of total federal community development monies, or one-quarter of the federal revenue sharing aid that state and local governments receive annually by the federal govern-

ment (1974). A better understanding of factors which influence the cost of borrowing or participating in the municipal bond market could help, therefore, in reducing the fiscal problems besetting state and local governments around the country.

Despite the municipal bond market's size and importance, relatively few understand or comprehend the trends and factors which influence state and local participation. This lack of a comprehensive compilation of data on the market is evidenced in the conclusions of two studies on the municipal bond market.

" .. our examination leads one to suspect that the single greatest fiscal deficiency in any large urban community is a shortage of knowledge .. about the municipal bond market." ¹

" .. those that have the occasion to analyze the municipal securities market and those that have endeavored to compare statistics , will appreciate that while .. all sorts of data are available, very little has been done to link the statistics together." ²

The purpose of this thesis, therefore, is to comprehensively examine the structure of the municipal bond market, looking beyond the aggregate figures of supply and demand to analyze their significance upon state and local borrowing costs. Its principle audience

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1. Robert C. Wood of M.I.T. and U.S. Dept. of H.U.D., "Fiscal Planning for an Urban Community" p. 5 Found in A. Rabinowitz, Municipal Bond Finance and Administration, 1968, p.148.
 2. L.J. Paradiso, M.A. Smith, "State and Local Government Capital Expenditures in Relation to National Economic Activity" Found in Joint Economic Committee Report - State and Local Public Facility Needs and Financing, p.5

are the state and local government borrowers. Particular attention will be paid to the traditional large city borrower.

With the conclusions drawn from the analysis of the market structure, this thesis will attempt to disclose to its principle audience, the state and local government borrower, the significant factors which determine the costs of borrowing in the municipal bond market.

The overall purpose of this thesis is therefore not only to help state and local governments in understanding the market structure and its impact of various classes of borrowers, but to present to its audience the most significant factors influencing their costs of borrowing. In this way it will serve to educate state and local governments to the limitations, problems, and complexities of the market and help in some manner to bring efficient and orderly growth in America's cities and states.

Specifically, the framework of this thesis is divided into three parts: The Context, The Market Structure, and The Factors Influencing Municipal Bond Participation.

In Part I, the Context, Chapter 2 presents an overview of the municipal bond market. Chapter 3 will frame the history of municipal bond indebtedness explaining the development of government intervention and regulation in the market based upon general economic conditions of the economy. In studying past periods of debt difficulty, the history will show that sound financial management is one of the most critical factors determining the costs of borrowing in the market. Chapter 4, explains the various features and mechanics of municipal bonds.

Part I is designed for the uninitiated reader and provides background information on the municipal bond market. For the advanced reader, this section may be skipped.

Part II, the Market Structure analyzes the supply and demand trends in the municipal bond market. Chapter 5 analyzes the development of the present supply structure. It analyzes the restrictions and purposes of municipal bond borrowing, the development of legal and financial means circumventing borrowing restrictions, and the resultant types of obligations that have emerged as a result. The impact of the various types of issues in the market is analyzed statistically in Chapter 6 (from 1960 - 1975). Chapter 7 analyzes statistically the demand side of the market or the various buyers of municipal bonds. Chapter 8 concludes Part II by correlating the supply and demand trends. The conclusions drawn will focus on how this interface between supply and demand affects various state and local government issuers in the market.

In Part III, Factors Influencing Municipal Bond Participation, Chapter 9 attempts to examine the uncontrolled factors affecting municipal bond participation. Chapter 10 finally details those factors which state and local governments can control to minimize the costs of borrowing in the market. The controllable factors are grouped into two parts;

1. internally controlled factors relating to the inherent qualities of the issuer, such as its financial management and fiscal picture.

- and 2. externally controlled factors related to the merchandising or marketing of a general government's debt, such as timing of the debt into the market, advance of sale advertising to increase its marketability, and securing a good credit rating.

Recognition of the uncontrollable factors influencing participation in the municipal bond market and manipulation of the controllable factors influencing the cost of borrowing will minimize the costs of issuing bonds in the municipal bond market.

Chapter 11 concludes the thesis and serves as a summarization of the major points discussed throughout.

PART I

THE CONTEXT

CHAPTER TWO

OVERVIEW OF THE MARKET

As mentioned in the previous chapter, the municipal bond market grew rapidly in the post World War II period. It has grown so rapidly that the supply of long term issues entering the market in 1975 was almost twice the total debt outstanding (long term plus short term) at the end of World War II.¹ With an almost exclusive reliance upon the tax exempt bond as the capital raising vehicle by state and local governments, any changes in the supply or demand conditions of the market have far reaching implications. By examining the important changes that have developed in the municipal bond market, its complexity and the factors affecting the costs (and limitations) of borrowing can be better understood. The most important changes in the market and its environment began to develop in the 1960s. The principle analysis will therefore be confined to the period from 1960 - 1975.

The national economy from mid 1960-70s experienced periods of recession, recurring tight money conditions, and a prolonged period of inflation that has exacerbated problems in all debt markets -- and the municipal bond market in special ways. The problems and ultimately the solutions towards reducing the costs of borrowing will be seen by analyzing the supply and demand trends in the market.

The demand for municipal bonds has changed significantly since the 1960s. Because tax exemption from federal income taxes is the principle attraction of state and local obligations, a narrow market

of investors in the highest marginal income tax bracket has resulted. Commercial banks, wealthy individuals, and fire and casualty insurance companies represent almost all the demand for tax exempt debt. With such a limited number of purchasers, any changes in their credit positions or operating policy greatly affects the yield and price paid for capital by state and local government borrowers. In the 1970s it became evident that institutional purchasers in the municipal bond market could not be counted on to maintain the levels of support established in the 1960s. In the absence of large institutional support, the household sector has been increasingly relied upon to support the credit needs of state and local governments.

The supply of municipal bonds expanded most rapidly in the 1960s. Accounting for a large part of this increase was the expansion of bond borrowing by state and local governments beyond the traditional purposes.² Tax exempt issues in recent years have included financing of projects which are owned and operated by private entities or ultimately linked to a private profit-making enterprise. These non-traditional purposes have included the issuance of tax-exempt bonds for industrial development, pollution control, housing market support, hospital

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1. New issue volume in 1975 was \$28.7 billion, as compared to \$15.9 billion in 1976; a 181% increase in supply.
 2. traditional purpose borrowing is generally understood to mean financing of schools, highways, and certain water & sewer projects.

financing and an assortment of publicly financed, but privately operated facilities. This expansion of supply, given the increasingly narrower demand, has caused a number of problems for issuers in the market.

Short term supply has also increased dramatically. Due in part to the spiralling interest rates, the sudden surge in short term borrowing has resulted in a doubling of supply in a six year period from 1968 - 1974. As state and local governments felt released from the prohibitions of temporary financing in the short term market, abuses of their use by some general governments resulted. Most noteworthy of these issuers was New York City, whose indebtedness in short term notes became so immersed that its ability to sell future tax exempts is doubtful. New York City's creditworthiness is so uncertain that in spite of record 9% coupon yields on 20 year bonds with discounting to 75% of par, most of the bonds were unable to be placed.

Finally, the interface between supply and demand has resulted in a segmentation of issuers in the market. With an expansion in supply, especially that of non-traditional debt, and the shifting demand trends and preferences, the governments which have found it most difficult to borrow in the market are the large "improvident" urban areas, and the small unsophisticated borrower.

Given this problem between supply and demand, numerous solutions to improve the efficiency of the municipal bond market have been suggested.¹ These solutions, by and large, have been discussed and

proposed all too frequently with little or no success. In 1975 and 1976, despite the problems in the municipal bond market coming to a head with the New York City situation, no substantial reform measures to improve efficiency or reduce borrowing costs were adopted. In light of this, state and local governments must take the initiative towards maximizing their efficiency of participation in the market. This is accomplished in two principle ways: 1) by recognizing the limitations of borrowing in the market - or the factors beyond state and local government control (Chapter Nine) and 2) by improving the conditions both internal and external (Chapter Ten) which investors evaluate in determining their own participation. Evaluating the overall picture of the municipal bond market (Part II) and carrying that understanding of the market towards detailing the significant factors which state and local governments can control will help to reduce the costs of borrowing in the municipal bond market.

1. Proposed solutions towards improving the market have included:

- Taxable bond option - Federal subsidization of interest costs of borrowing.
- Broaden market demand in allowing mutual funds to "pass-through" tax-exempt income from municipal bonds to investors (current 1976 House Bill introduced by Representative William Steiger).
- State advisory assistance in bringing local issues to market; instituting systems similar to North Carolina and Texas.
- Urbank - Federal bank for state and local governments. Referred to as the "marshall plan for the cities".
- Registration of issuers with \$5 million in the new issue market or registration of issuers with \$50 million outstanding with the Securities Exchange Commission.

CHAPTER THREE

HISTORY OF MUNICIPAL BOND INDEBTEDNESS

The municipal bond market has greatly expanded since its inception in the early 1800's. The states were the first to start experimentting with extensive borrowing in the 1820s and 1830s when borrowing was used primarily to finance the building of canals, railroads, and roadways. When the depression of 1837 hit and persisted for several years, a number of states were unable to meet their commitments and defaulted on interest and principal repayments. A general loss of investor confidence in state bonds ensued and the issuance of bonded debt came to an abrupt halt. To prevent future misuse of this borrowing power, state after state amended its constitution to restrict indebtedness.

In the subsequent forty years, debt financing was relatively dormant until the Civil War, when the issuance of bonds rose again, mostly from states borrowing to cover their share of the war. It was during this post Civil War period that local governments entered the picture and began issuing large volumes of bonds. Indebtedness from local governments grew from \$40 million in 1850 to \$200 million in 1860. By 1870, local indebtedness had grown so rapidly that

1. A.C.I.R., City Financial Emergencies, 1973, p. 11.

\$516 million in debt-financing had accumulated. The major percentage of this increase was attributed to "carpetbagger regimes" in the Southern States.¹ With the economic downturn of 1873 reducing income and growth, especially in the South, a series of defaults resulted. Eventually, almost 20% of all local debt was in default.² Also, nine state governments during this period defaulted on their debt.

There is an important distinction between state and local debt that requires comment. Since states are sovereign, they may repudiate their debt; local governments, on the other hand, are not and therefore are liable to legal actions similar to that of private bankruptcy proceedings.

In an effort to curb the excessive incurrence of local debt and to avoid default, state legislatures across the country began to impose stringent constitutional and statutory restrictions (and will be discussed in detail in Chapter Five). The restrictions imposed at the turn of the century did stem the flow of local credit for a short time. However, by the early 1900s, local debt had exceeded state debt. The principle local issuers were the large cities in the North. They issued municipal bonds to construct schools, roads, and the necessary infrastructures to promote growth. By 1932, local governments had increased steadily with annual local debt issued totalling \$16.4 billion as compared with state debt issuance of \$2.1

1. Ibid., p. 23.

2. Two-thirds of which were railroad aid bonds issued primarily by counties, but a significant percentage of which were city and town obligations.

billion (see 3 - 1).

With the Great Depression beginning in 1929 severely impacting economic growth and employment in the nation, defaults by state and local governments began to appear. Records on default during the period 1929 - 1937 indicate that defaults on municipal bonds represented about 17.7% of the average amount of debt outstanding in this period (see 3-2)/

The incidence of default by type of issuer reveals that the size of the issuing government provided no immunity from financial trouble. In fact, the percentage of counties in default during this period exceeded the percentage of towns in default by almost 9.25 times.

The distinguishing characteristic that differentiates an issuer, therefore, must be the financial condition and management of the government unit. To substantiate this point, a National Bureau of Economic Research study on the causes of default during the Great Depression reach the conclusion that:

"...the lack of financial planning and the generally poor quality of many government administrators may have triggered much of the defaults in municipal units.."

Both the quality of the issuing government's financial management and the prevailing economic conditions are important factors in analyzing supply and demand participation.

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1. George H. Hempel, Postwar Quality of State and Local Debt, 1971 p. 19.

During World War II, public construction came to a standstill for lack of materials and labor. State and local borrowing therefore dropped precipitously. As revenues picked up in the wake of full-employment generated by the war boom, state and local governments retired outstanding debt. By the end of 1946, the volume of debt outstanding was 18% less than at the end of 1938.

With a comparatively stable economy accompanied by steady growth, state and local governments were now in a stronger fiscal position. Once again the issuance of municipal bonds increased. Renewed prosperity coupled with the post War baby boom created a tremendous demand for public facilities and infrastructure -- primarily in the form of schools, hospitals, roads, and sewer lines. As illustrated in 2 - 1, municipal bond debt increased with extreme rapidity following World War II. Since 1945, total state and local debt has more than doubled in every decade. The total debt outstanding for state and local obligations jumped from \$17.2 billion in 1945 to \$47.6 billion in 1955. From 1955 - 1965, debt outstanding increased again from \$47.6 to \$100.3 billion. And in 1975, municipal bond debt outstanding, both long-term and short-term, was over \$250 billion.

The intention of this Chapter has been to set the municipal bond market into context. We have seen the origins of municipal bond borrowing arise in the 1800s to finance growth and expansion in the U.S. Municipal bonds were originally issued by only state governments. Local governments entered the market in the late 1800s and by the turn of the century surpassed state holdings by 121.9%.

Exhibit 3 - 1

STATE AND MUNICIPAL DEBT OUTSTANDING, 1932 - 1974*

(millions of dollars)

Year	Total	State	Local
1973	\$188 485	\$59 375	\$129 110
1972	174 502	54 453	120 049
1971	158 826	47 792	111 034
1970	143 570	42 007	101 562
1969	133 548	39 553	93 995
1968	121 158	35 666	85 492
1967	114 614	32 472	82 152
1966	107 051	29 564	77 487
1965	99 512	27 034	72 478
1964	92 222	25 041	67 181
1963	87 451	23 176	64 276
1962	80 802	22 023	58 779
1961	75 023	19 993	55 030
1960	69 955	18 543	51 412
1959	64 110	16 930	47 180
1958	58 187	15 394	42 793
1957	53 039	13 738	39 301
1956	48 868	12 890	35 987
1954	38 921	9 600	29 331
1952	30 100	6 874	23 226
1950	24 115	5 285	18 830
1948	18 656	3 676	14 980
1946	15 917	2 353	13 564
1944	17 479	2 776	14 704
1942	19 706	3 257	16 449
1940	20 283	3 590	16 693
1938	19 436	3 343	16 093
1936	19 474	3 413	16 061
1934	18 929	3 248	15 681
1932	19 205	2 832	16 373

* Short and long-term debt outstanding at end of fiscal years.

Data compiled from Tax Foundation, Inc 1932-1961; and later years
"The Bond Buyer" and Dept. of Commerce sources.

Exhibit 3 - 2

INCIDENCE OF DEFAULTS BY TYPE OF GENERAL GOVERNMENT, 1929 - 1937 *

Type	Total number	Number in Default	% of total number in default	Net debt all units 1933	Indebtedness of defaulting unit	% of debt in default
Counties	3 053	417	13.7	2 391	360	15.1
Cities	16 366	1 434	8.3	8 842	1 760	19.9
Towns and organized townships	20 262	88	.4	344	10	2.9
Reclamation, irrigation, & drainage districts	3 351	944	28.2			
Other special districts	5 229	646	12.4	1 599	400	25.0
School districts	127 108	1 241	.9	2 040	160	7.8
Total	175 369	4 770	2.7	15 216	2 690	17.7

* Source: ACIR City Financial Emergencies, 1972, p. 12

In retrospect, we have seen the history of the municipal bond market to be sensitive to declines in economic activity. Following the economic downturns in the U.S. economy in the 1870s and 1930s, defaults by issuers lead to greater restrictions on state and local borrowing.

From these lessons of the past, renewed government intervention has seemingly appeared with the slackening of economic activity in the 1970s. Calls for increased government regulation and reform in the form of disclosure guidelines for issuers, registration of issuers with the S.E.C. (a practice which state and local governments were exempted from in the Glass-Steagall Act of 1933), and federal subsidization of interest payments through a taxable bond option, represent a new wave of reforms and restrictions on the municipal bond market.

As noted in this Chapter, actions have generally come about only during prolonged economic slowdowns. Based upon historical experience, the likelihood that corrective measures to improve the market will materialize in the latter half of the 1970s will be a function of U.S. economic activity and its impact on the municipals market. Improvements in the economy will more than likely dampen the movement towards reform in the market, while prolonged inactivity or declines in GNP may bring the changes proposed.

CHAPTER FOUR

THE MECHANICS OF MUNICIPAL BONDS

In this chapter, features which distinguish bonds are identified. By studying the multiplicity of features by which a bond can be brought to market, one can understand the sophistication required in analyzing the various types of bonds and their markets.

Definition

A municipal bond is a promise to pay back borrowed money at a specified date and under specified conditions; plus the promise to pay interest at specified times and amounts during the time the bond is outstanding. The term "municipal bond" ordinarily refers to obligations whose interest on indebtedness is exempt from federal income taxation and is sold by any local government, from a state to the smallest incorporated village or special-purpose district or authority.

Attractiveness

The attractiveness of a municipal bond is basically attributed to four investment features.¹

- a. Security: State and local obligations have until recently been considered risk-free investments. Municipal bonds have generally been considered second in safety to bonds of the U.S. government.

1. Securities Industry Association, Fundamentals of Municipal Bonds, 1972, p. 1 - 2.

- b. Marketability: Such bonds assures the buyer that an investor can sell them if he/she wishes to do so.
- c. Tax-exemption: This represents the major attractiveness of municipal bonds. Interest gained is exempt from all federal income taxes. In addition to the exemption from federal taxes, interest on municipal bonds are usually exempted from state and local income taxes where the issuer is located. (see 4-1).
- d. Diversity: The range of issues and maturities available in the market has allowed buyers to obtain bonds issued by an issuer located in the geographical area of his preference and maturities depending upon his liquidity needs.

Face Amounts

Practically all municipal bonds are issued with a face amount or denomination of \$5,000. or more. Because most buyers are large institutions which buy in large lots, these large denominations greatly reduce problems in handling and storage. Large denominations also help to reduce printing costs for the issuer.

Call

The provision for call or early retirement of a bond allows the issuer to pay the bonds before the maturity date. In retiring bonds before maturity the issuer or local government usually pays the holder a specified premium which is in addition to the face value of the bond. Local governments use the call provision when general interest rates are high. Under high interest conditions, an issuer will accept high interest rates with the inclusion of a call provision in hopes of refunding at a lower interest rate in the future. Because of this, bonds with call provisions attached are usually less attractive.

Exhibit 4 - 1

STATE AND LOCAL TAXATION OF MUNICIPAL BONDS

State	Corporations					Individuals						
	State Tax on Income		Property Tax		Local Tax	on Income	State Income Tax		Property Tax		Local Income Tax	
	Own State	Other States	Own State	Other States			Own State	Other States	Own State	Other States	Own State	Other States
Alabama	NT	T	NT	T	None	None	NT	T	NT	T	None	None
Alaska	NT	NT	None	None	None	None	NT	NT	None	None	None	None
Arizona	NT	T	None	None	None	None	NT	T	None	None	None	None
Arkansas	NT	T	T	T	None	None	NT	T	None	None	None	None
California	T	T	NT	NT	None	None	NT	T	NT	NT	None	None
Franchise Tax Income Tax	NT	T										
Colorado	T(1)	T	None	None	None	None	T(1)	T	None	None	None	None
Connecticut	T	T	None	None	None	None	None	None	None	None	None	None
Delaware	NT	T	None	None	NT	None	NT	T	None	None	None	None
District of Columbia	NT	NT	None	None		None	NT	NT	None	None	NT	NT
Florida	T	T	NT	T	None	None	None	None	NT	T	None	None
Georgia	NT	T	NT	T	None	None	NT	T	NT	T	None	None
Hawaii	NT	T	None	None	None	None	NT	T	None	None	None	None
Idaho	T	T	T	T	None	None	T	T	T	T	None	None
Illinois	T	T	T	T	None	None	T	T	T	T	None	None
Indiana	NT	NT	NT	T	None	None	NT	NT	None	None	None	None
Iowa	T	T	None	None	None	None	T	T	None	None	None	None
Kansas	T(1)	T	NT	T	None	None	T(1)	T	NT	T	None	None
Kentucky	NT	T	NT	T	NT	NT	NT	T	NT	T	None	None
Louisiana	NT	T	NT	T	None	None	NT	T	NT	T	None	None
Maine	NT	NT	None	None	None	None	NT	T	None	None	None	None
Maryland	NT	NT	None	None	None	None	NT	T	None	None	NT	T
Massachusetts	T	T	NT	NT	None	None	NT	T	None	None	NT	T
Michigan	NT	T	NT	T	None	None	NT	T	NT	NT	None	None
Minnesota	T	T	None	None	None	None	NT	T	NT	T	None	None
Mississippi	NT	T	NT	NT	None	None	NT	T	None	None	None	None
Missouri	NT	T	T(2)	T(2)	NT	None	NT	T	NT	NT	None	None
Montana	NT	T	T	T	None	None	NT	T	T	T	None	None
Nebraska	NT	NT	None	None	None	None	NT	NT	None	None	None	None
Nevada	None	None	NT	NT	None	None	None	None	NT	NT	None	None
New Hampshire	NT	NT	None	None	None	None	NT	T	None	None	None	None
New Jersey	T	T	None	None	None	None	None	None	None	None	None	None
New Mexico	NT	NT	NT	NT	None	None	NT	NT	None	None	None	None
New York	T	T	None	None		None	NT	T	None	None	None	None
New York City												
North Carolina	NT	T	NT	T	T	None	NT	T	NT	T	NT	T
North Dakota	NT	T	NT	NT	None	None	NT	T	NT	NT	None	None
Ohio	NT	NT	T	T	NT	None	NT	NT	T	T	NT	NT
Oklahoma	T	T	None	None	None	None	T	T	None	None	None	None
Oregon	T	T	None	None	None	None	NT	T	None	None	None	None
Portland												
Pennsylvania	NT	NT	None	None	T	None	NT	T	NT	T	None	None
Philadelphia (School District)												
Rhode Island	T	T	None	None	None	None	NT	T	None	None	NT	T
South Carolina	NT	T	None	None	None	None	NT	T	None	None	None	None
South Dakota	None	None	NT	T	None	None	None	None	NT	T	None	None
Tennessee	NT	T	NT	NT	None	None	NT	T	NT	NT	None	None
Texas	None	None	T	T	None	None	None	None	T	T	None	None
Utah	T	T	None	None	None	None	NT	NT	None	None	None	None
Vermont	NT	NT	None	None	None	None	NT	NT	None	None	None	None
Virginia	NT	T	NT	T	None	None	NT	T	None	None	None	None
Washington	None	None	None	None	None	None	None	None	NT	NT	None	None
West Virginia	NT	T	NT	T	None	None	NT	T	NT	T	None	None
Wisconsin	T	T	None	None	None	None	T	T	None	None	None	None
Wyoming	None	None	NT	T	None	None	None	None	NT	T	None	None

This chart was prepared by Coopers & Lybrand based on their information.

(1) General Excise Tax (2) General Sales Tax

This chart was prepared by Coopers & Lybrand based on their interpretation of the laws, regulations and rulings in effect on December 31, 1973. Since the various laws and administrative interpretations thereof are subject to change, your tax advisor should be consulted to ascertain that the above information is still current before purchasing municipal bonds issued by a particular jurisdiction.

(1) General obligation bonds (2) Tax-exempt bonds payable January 1, 1975

Price

Where bonds are purchased at a discount and redeemed at a price in excess of the purchase price, the amount of the gain is not tax-exempt and is taxed as a capital gain. Most bonds selling at a discount from par value are low-coupon issues which have fallen in price as interest rates have risen. For example, if the general level of tax-exempt interest rates were 6%, a 4% coupon issue with 20 years to maturity would sell at a price of \$768.90 per \$1,000 bond in order to provide a 6% yield to maturity. However, this 6% yield to maturity includes, at the end of 20 years time, a \$231.10 taxable capital gain and is not the same as a 6% coupon purchased at par. To compensate for this tax disadvantage, discount bonds sell at a lower price than par. As a result a 4% coupon, 20 year bond, may sell below the theoretical value of \$768.90 per \$1,000 in order to gain (after capital gains taxes) 6% tax-exempt yield to maturity, perhaps at 6.4% to 6.5%.

Payment Form

A characteristic affecting the marketability and ease of trading municipal bonds is whether they are in registered form or bearer form. Registered bonds are bonds registered on the books of a local government or issuer. Bearer bonds are also known as coupon bonds because interest is collected by clipping coupons and forwarding it to the issuer or paying agent. Since coupon bonds are transferable by delivery to the bearer, they are more easily marketable than registered bonds. In some cases issuers have compromised and added security to municipal bonds by partially registering either principal or interest.

Since municipal bonds are ordinarily sold in the coupon form, tracing or establishing ownership of such bonds is extremely difficult and is one factor that has limited studies on the ownership of municipal bonds.

Repayment Method

Probably one of the most important characteristics of a municipal bond is the method of repayment. An issuer, by selecting a repayment method according to its short-term and long-term cash flow needs can greatly reduce problems of debt-service repayment. The choice of repayment methods available not only allows the issuer to tailor an issue to his needs but also provides added diversity for buyers in the market.

There are basically four methods of retiring the principal of a bond issue: term, straight serial, serial annuity, and deferred.

These repayment methods can be grouped into two classes; term bonds and dollar bonds.¹ Term bonds are all bonds in the issue mature at one time through the operation of a sinking fund or serial bonds. Under this system bonds of a single issue are divided into a number of different maturities and retired in installments. Most issuers (particularly true of municipalities) use the serial method of debt redemption. It is this prevalence of serial maturities that explains why bonds are usually quoted on a yield rather than price basis.

1. Bonds quoted on a price or dollar basis are called dollar bonds.

Straight Serial These bonds mature in equal installments with the same amount of principal being retired each year (i.e. 20 year straight serial bond would equal 5% amortization a year). Given a constant interest rate, straight serial bonds are characterized by a declining annual debt-service. Since the interest component steadily decreases as the principal is amortized, the dollar amount steadily decreases each year. This is a unique advantage, since there are few things for which governments must recurrently appropriate money, that are arranged with each succeeding year's appropriation lower than the last. In using the straight serial method, the issuer or local government can predictably be assured that the annual debt service will decline constantly over time (see 4-2).

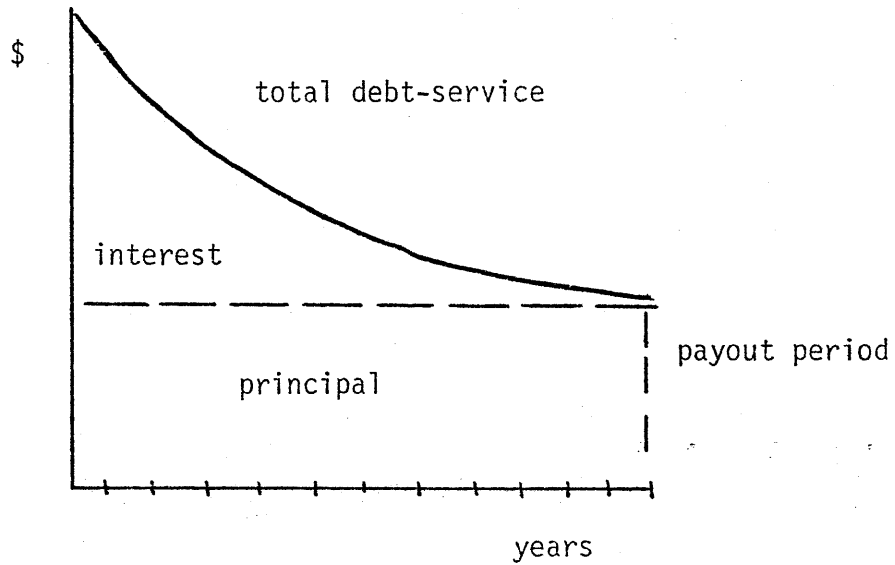
Serial Annuity Some times called level debt service bonds, serial annuity bonds have their maturities arranged so that interest and principal combined remain level from year to year, with the principal rising as interest declines. In the early years, principal maturities are at their lowest, gradually rising and peaking in the final installment. Consequently, principal amortization is repaid at a slower rate with the interest costs being higher than in the case of straight serial bonds.

When the action of the governing body or local government is inflexible, and where revenues cannot be increased (to utilize straight serial method), serial annuity bonds are appropriate. Thus, this level debt-service method is preferred for local authorities issuing revenues bonds and for special-purpose districts where the resources can not be

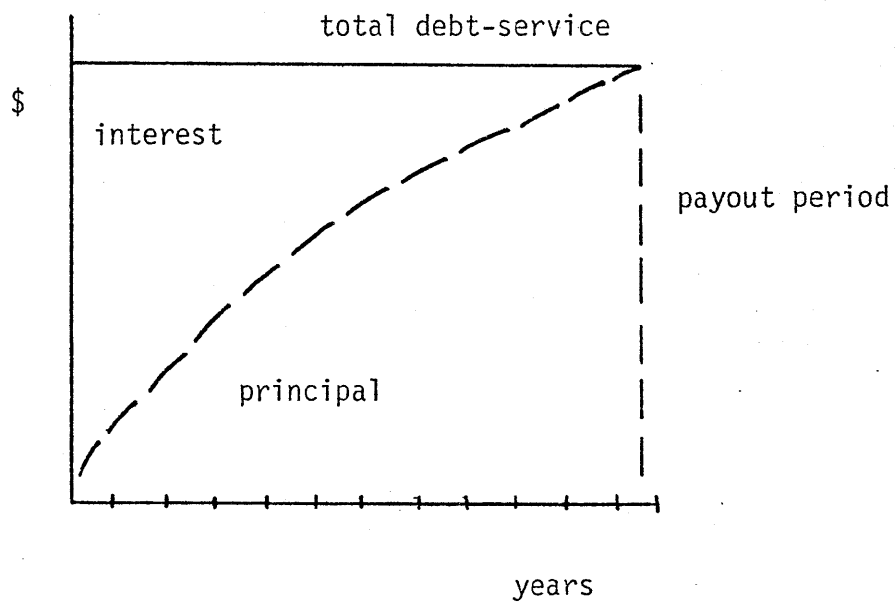
Exhibit 4 - 2

REPAYMENT METHODS

Straight Serial



Serial Annuity



arbitrarily increased. These bonds are also the choice for general improvements where there are severely restrictive tax-rate limits or where increases in the economic burden is inelastic and is a matter of considerable concern (see 4-3).

Irregular or Deferred Serial Irregular or deferred serial bonds have maturities which differ from the annual repayment plan. These bonds can range from intervals greater than a year to negotiated maturities with no regular pattern of repayment. The most common deferred serial is when bonds mature every two years. Although there appears to be no discernable justification for such an arrangement, one example of its use has been to arrange the off-year to coincide with the year board members (of an authority) were up for election.

Another variation of this type is where annual but relatively small debt-service is set until the last installment where the major fraction of the issue is retired in a balloon payment. In utilizing this form of repayment local governments can either accelerate or postpone debt-retirement depending on their projected cash flow over time. If used properly, this method could correct for fluctuations in an issuer's revenue/expenditure pattern. This method however, could be subject to abuse when used in conjunction with a call provision. In this case the call provisions could allow refunding before balloon payment, thus putting off a 'day of reckoning' indefinitely.

Term Bonds These bonds are paid off in "single maturities", usually in the last year of the progression, from monies periodically accumulated through a sinking fund. This repayment form is comparable to the balloon maturity of a mortgage. The critical factor in this method is the adequacy of the sinking fund to retire the debt.

Unsatisfactory sinking fund management in the nineteenth century, led to the general substitution of serial bonds in the twentieth century. An issue, however, can be composed of both term and serial bonds; with serials in the beginning and intermediate years and a term bond due forty or fifty years in the future.

PART II

THE MARKET STRUCTURE

CHAPTER FIVE

DEVELOPMENT OF THE PRESENT SUPPLY STRUCTURE OF THE MUNICIPAL BOND MARKET

The purpose of this chapter is to point out the most significant developments that have shaped the present supply structure of the municipal bond market. Specifically, the issues which will be covered in Chapter Five are: 1) the reasons for state and local government borrowing, 2) the restrictions that have been placed upon state and local government use of tax exempt borrowing, 3) the advent of legal and financial mechanisms for circumventing restrictions on municipal bond indebtedness, and 4) an analysis of the major types of obligations that emerged through these special arrangements. These developments on the supply side of the municipal bond market are very important in understanding the present problems surrounding the costs of state and local government borrowing.

REASONS FOR BORROWING

In an analysis of the supply-side of the municipal bond market, a good starting point is to consider the purposes for which state and local governments borrow.

State and local governments borrow to finance expenditures which they could not otherwise finance out of current revenues. By nature, tax-exempt municipal bonds are issued "only" by state and local governments and their agencies. Also, municipal bonds are used for

financing long term capital expenditures. By using municipal bond borrowing for such expenditures, the cost of a facility can be spread out to those who inhabit the jurisdiction in the future. In this way those who will enjoy the benefits from a facility can be required to help pay for them.

Given these two characteristics of municipal bonds, state and local government borrowing can be reasoned in the following manner. A community needs a relatively costly capital investment(for example, a sewer system or school) that will serve the community for a generation or longer. In this situation, it would be unfair to charge the total costs to the taxpayers who happen to live in the community during the year or so when the project is being constructed. The unreasonableness of charging a facility's capital costs during its construction period is aggravated in the case of a rapidly growing community. Rapidly growing communities are confronted in the early years of growth with the need for additional public facilities (i.e. schools sewerage systems, roadways, etc.). Funding the costs of these facilities totally out of tax collections, if not impossible, would be grossly unfair and detrimental to the healthy development of the community.

Therefore, state and local governments use debt-financing because capital improvements, being so costly, must be fairly spread out over a reasonable period of time. Debt-financing allows more funding of expenditures than taxpayers are willing to provide. Taxpayer tolerance for government expenditures is always greater when not immediately reflected in tax bills.

The essential point is that borrowing permits the allocation of capital improvements costs to those who will benefit from them over its usable life. This, thereby facilitates the acquisition of more capital plant than would be possible out of current revenues alone. Since capital expenditure needs vary from year to year, financing through the municipal bond market permits the impact of the budget to be spread out more evenly over the years. This is accomplished by scheduling the repayments (maturity schedule) so that debt does not fluctuate too radically over the years.

These considerations apply principally to general obligations or those secured by the full faith and credit of the borrowing jurisdiction. Other factors, however, come into play in the case of limited obligations which are payable from the receipts of a quasi-public or semi-private enterprise (such as a utility or pollution control facility) or from the operating income of a public agency (such as a port authority). As we shall see, these limited obligations have allowed state and local governments to expand the scope of purpose in tax exempt financing.

CONSTITUTIONAL & STATUTORY RESTRICTIONS AS A DETERMINANT IN THE STRUCTURE OF THE MARKET

As indicated above, there are good reasons for allowing municipal bond borrowing. The history of municipal bond indebtedness has shown, however, that with the growth in the late 1800s and the inflationary period that followed, an over incurrence of debt had lead to defaults. This necessitated a drive for constitutional and statutory restrictions on indebtedness.

State and local governments during this period envisioned themselves as great metropolitan areas of the future. To provide the impetus for growth, infrastructure systems were planned. Financing through the debt markets became extremely attractive. Often tax monies were spent by officials, lacking full knowledge of the total costs and lacking the experience conducive to sound fiscal and debt management policy. However, the possibility of benefitting from an improvement or facility, in the present leads to abuses by issuers in an over extension of the debt.

Therefore, stringent constitutional and statutory restrictions governing the conduct of municipal bond borrowing have developed. These restrictions placed upon the borrower serve two functions. First, they limit the incurrence of excessive municipal bond debt, and second, they restrict the purpose to which municipal bond financing can be applied. These constitutional and statutory restrictions have played a most significant role in the supply side of the market.

The primary purpose of these restrictions are:¹

".... forestall and prevent the yielding by municipal officers to temptations of extravagance and providence and to check in advance, any tendency to bring wrack and ruin down upon them in times of popular excitement or overzeal for the creation or erection of internal or public improvements, by forwarding the mistaken notion that an artificial impetus to go through the incurrence of indebtedness as municipal progress."

In Chapter Two, we saw that following each default period by state and local governments, state legislatures imposed tighter restrictions upon themselves and their local jurisdictions. Although the number and type of restrictions vary from state to state, three general types of restrictions have become common to most issuers.

The first is a limitation on indebtedness. This is usually expressed as a percentage of a jurisdiction's property tax base. The amount of tax exempt debt allowable would be, therefore, dependent upon its assessed valuation. Such a system has many defects. The greatest problem of a system based on the value of a government's taxable property is that many areas have made no effort to modernize or bring up-to-date assessment practices. Consequently the limitations on indebtedness fail to take into account contemporary needs. Issuance of municipal bond debt above this restriction can be partly justified in this case.

1. O. Oldman, F.P. Shoettle, "Debt Financing" Chap. 6, p. 728.
State and Local Taxes and Finances

Exhibit 5 - 1

STATES REQUIRING REFERENDUMS FOR LONG-TERM MUNICIPAL BONDS*

State	Requirements by		146
	State Constitution and State Statute	State Statute	Referendum Requirement
Alabama	California	Delaware	Connecticut
Alaska	Colorado	Illinois	Hawaii
Arizona ¹	Florida	Iowa	Indiana
Arkansas	Idaho	Kansas	Massachusetts ²
Georgia	Kentucky	Michigan	Tennessee ³
Louisiana	Nebraska	Minnesota ⁴	
Maine	North Dakota	Mississippi ⁵	
Maryland	South Dakota	Montana ⁶	
Missouri	Wyoming	New Hampshire ⁷	
New Mexico		Nevada	
North Carolina ⁸		New Jersey ⁸	
South Carolina ⁹		New York ¹⁰	
Virginia ¹¹		Ohio	
Washington ¹²		Oklahoma ¹²	
		Oregon	
		Pennsylvania ¹⁴	
		Rhode Island ⁹	
		Texas	
		Utah	
		Vermont	
		West Virginia	
		Wisconsin ¹³	

¹ Only for debt exceeding specified limits.

² For some regional school district issues.

³ For industrial development bonds.

⁴ Excluding Minneapolis, St. Paul, and Duluth.

⁵ Only on county and municipal bonds and then by petition.

⁶ For selected issues.

⁷ Not required in cities and counties.

⁸ Except in selected school districts.

⁹ Only in cities and towns.

¹⁰ Except in selected school districts.

¹¹ For county debt only.

¹² Except for county hospitals.

¹³ Applies only to school districts.

¹⁴ Applies only to debt in excess of statutory debt up to specified maximum. (See text for comments.)

Source: Advisory Commission on Intergovernmental Relations, *State-Local Finance: Significant Features and Suggested Legislation*, (Washington, D. C., United States Government Printing Office, 1972), pp. 150-151.

* source: Lennox Moak, Local Government Borrowing, 1974, p. 281.

The requirement that municipal bonds be authorized by referendum or voter approval is the second restriction limiting the supply of municipal bonds. 5 - 1 illustrates the popularity of this restriction. Although most states require a plurality of votes, a common variation is to require a three-fifths to two-thirds majority vote. The amounts of municipal bonds approved and defeated are tabulated by "The Bond Buyer" and provide a good indication of public attitudes on state and local government borrowing (see 6 - 7).

The third major restriction on municipal bond borrowing is the imposition of a maximum tax rate. This is generally a specified rate that the issuer can apply towards debt-service on municipal bonds. The principle defect of this system is its inability to control total indebtedness. Municipal bonds are issued not only by municipalities, but by school districts, water and sewer districts, and regional authorities. These overlapping jurisdictions therefore defeat the function of maximum tax rates on indebtedness.

The underlying function of the constitutional and statutory restrictions has been to provide a mechanism for screening allowable purposes or uses of tax exempt financing. By controlling the purpose of municipal bonds in the market, those allowable users of the tax exempt privilege are theoretically able to borrow at lower interest rates than if the supply were non-constrained. However, as seen above, the defects and variations in the restrictions governing the issuance of municipal bonds have allowed tax exempt financing for other than the conventional or traditional purposes.

EMERGENCE OF THE SPECIAL FUND DOCTRINE

Compounding the defects of the restrictions on state and local government indebtedness, prosperity and growth in the post World War II years again brought tremendous pressures upon state and local governments to expand the incurrence of debt. As some state and local governments sought to expand the scope of their activities and to use tax exempt financing for other than conventional purpose, the strict constitutional and statutory restrictions became an obstacle to their expansion. With these mounting pressures, state and local governments found legal and financial means to circumvent the restrictions.

A rapid emergence of new purpose tax exempt bonds appeared in the market. The "key" to this expansion of municipal bond purpose lies in a legal doctrine called the "special fund doctrine". Circumventing state and local limitations on borrowing, the special fund doctrine sets up a system of non-governmental borrowing which is supported by special taxes, assessments, and non-tax revenues paid by those who use the facilities constructed with the bond proceeds. The issuance of obligations secured by a special fund rather than the full faith and credit of a jurisdiction is the principle means which state and local governments issue tax exempt debt beyond the traditional purposes of governmental borrowing.

The overall effect of the special fund doctrine has been to increase the supply side of the municipal bond market in the development of public service and semi-private purposes of tax exempt financing.

CLASSIFICATION OF SUPPLY BY PURPOSE

With the rapid extension of purposes of municipal bond borrowing, the supply of municipal bonds can be more usefully classified by purpose. Examining the purposes through which municipal bonds are issued reveal the widening scope of state and local government activities.

Broadly speaking there are three classes of purpose to be recognized in the market. General purpose obligations (GOs) represent the largest group of obligations. It is the GOs which are considered to be the traditional or conventional type of purpose borrowing. Public-service and semi-private (or quasi-public) purpose obligations represent the second and third groups in the market. Issued under the special fund doctrine (and other legal and financial means) it has been these obligations which have grown so quickly in the municipal bond market. These two are generally referred to as non-conventional or limited obligations.¹

Governmental Purpose: Governmental purpose is recognizable as financing such traditional expenditures as: school buildings, city and town halls, streets and roads, sewers and drains, fire houses, and police stations. Municipal bonds issued under governmental purposes in 1975 comprised approximately 59% of the market for long term tax-exempt obligations. Government purpose bonds are synonymous with general obligations. GOs are backed by the full faith and credit of the issuer. GOs issued by a city or state are considered a direct credit obligation of the issuing government. By definition, GOs possess

1. Specific data on these obligations to come later in Chapter Six, See Exhibit 7 - 3.

two attributes. First, it is an obligation of a government unit with the power to levy and collect taxes. GOs are therefore payable from such taxes as well as from other available general revenues. Second, it is backed by a pledge of full faith and credit. This pledge implies that whatever revenues are initially appropriated for debt-service, they are to be supplemented, as needed, by any other available revenues.

The legal doctrine protecting government purpose bonds is "Dillion's Estoppel Clause", or Dillion's Rule. Dillion's Rule states that once a GO has been signed by the recognized government official (i.e. city treasurer), the issue is valid and cannot be denied in terms of being a direct debt obligation of the issuer. Strict interpretation of this doctrine by the courts has kept the power of local governments issuing GOs dependent upon state legislative and constitutional enabling legislation. Since Dillion's Rule limits and controls the incurrence of debt by an issuer, it is a most significant means of limiting state and local borrowing through government purpose general obligations.

Public-Service Purposes: The most common undertaking of public-service type obligations include financing for purposes such as: toll bridges and highways, airports, transit and marine financing, sewerage systems, and water, electric, and gas supply systems. State and local governments in expanding into these areas of activity have set up agencies or public-service enterprises which are only partially

self-supporting with operations subsidized by a general government and with costs somewhat defrayed from the sale of a service or good.

Quasi-Public or Semi-Private: Quasi-public or semi-private purposes can be recognized as tax-exempt financing for special assessments against a benefitting property owner. Undertakings included under this purpose include such activities as: street curbing and street lighting. Additionally, these purposes include situations where a service or facility is provided at public expense but benefitting a limited number of users or even private use. Included in this group are such uses as hospital financing, pollution-control, industrial development, and housing finance.

EMERGENCE OF NEW TAX EXEMPT OBLIGATIONS

Growth and prosperity in the late nineteenth century and in the 1920s brought tremendous expansionary pressures on the municipal bond market. As the pressures mounted again in the post World War II period, state and local governments sought to attract new industries and growth into their domains with municipal bond financing.

The special fund doctrine as well as other legal and financial arrangements, used with increasing frequency by state and local governments, provided the means for bypassing the strict rules limiting government debt. The expansion in the purpose of tax exempt financing has resulted in a rapid increase of "new" type tax exempt obligations. The following is an analysis of these new limited or special fund bonds.

Use of the special fund doctrine dates back to the early 1900s. Obligations financed under this legal arrangements were limited primarily to two types of operation:

1. Utility-type obligations of local governments, such as water supply bonds.
- and 2. Housing support obligations to provide for local public housing.

Up until the 1960s, the bulk of all limited or special fund obligation debt had been incurred for these two purposes.

The 1960s saw the emergence of new tax exempt obligations. As the purpose of municipal bond indebtedness expanded, rapid extension and modification of the special fund doctrine lead to the development of a special group of limited obligations called "revenue" bonds. This group of securities include: Moral Obligations, Industrial Development Bonds, Pollution Control Bonds, Health and Hospital Financing Bonds, Tax Allocation Bonds, and Housing and Mortgage Finance Obligations.

An analysis of the types of obligations that have emerged in recent years in the municipal bond market shows both the vigor and extent of state and local government expansion of activities.

Moral Obligations

The most controversial type of bond in the market is the moral obligation. The use of moral obligation bonds began in 1960 with the creation of the New York State Housing Finance Agency. Moral obligations (MOs) have since grown to over \$8 billion bonds outstanding in 1975.¹ The use of the term moral obligation is questionable and misleading. In fact, all general obligation (GO) debts are "moral" obligations in that an unconditional guarantee of the issuer has been made. In this case, however, the term moral obligation is more literary than legal, with the intended impact to stress the issuer's determination to pay rather than to define any legal details.

More appropriately moral obligations are "back-up fund" bonds. Under this system, a capital reserve fund is created by the issuing government agency or authority. It then obtains a moral obligation or pledge from a higher government, usually that of the state.² Yearly appropriations are made by the state to replenish the reserve fund and to ensure that its status is always sufficient to pay scheduled interest and principal payments.

The unique attribute is that although the government is morally obligated to make future deficiency payments, it is not legally liable for the debt, and it does not constitute part of the debt of the government (e.g. the state obligor).

1. New York's Governor Nelson Rockefeller initiated MOs with advice from bond counsel John Mitchell.

Moral obligations have been generally issued because the proceeds from the project(s) in which the bonds are based are inadequate to meet annual (or periodic) debt-service. The most common being state-created instrumentalities such as New York State's Urban Development Corporation to finance housing construction. Other uses of MOs have included the repackaging of local government bond issues in bond banks, such as in Vermont, Maine, and Puerto Rico.

The principle factors in analyzing moral obligations are:

- a. The intrinsic merits of the projects undertaken or conversely the risk that the project will not meet expectations.
- b. The status of legislative appropriations to the back-up fund or the risk that the state or obligor will not meet its moral obligation.

The first point is clear enough. For instance in housing finance ;evaluation of the project lie in solid financial analysis indicating operating and income schedules, market demand, absorption rates, and attractability.

The second point is more difficult to analyze. Generally a survey of state administrative and legislative attitudes to make good on fund deficiencies are sought. To carry this latter point a step further; evaluation of the risk that the obligor will not honor its moral pledge.

-
2. State legal responsibility is generally hedged in a bond statement that:
 - a. all monies paid by the state into the fund are subject to appropriation by the legislature
 - and b. the legislature is not obligated to appropriate the monies.

The rating agencies have discounted the moral obligation as a binding pledge and have tended to rate MOs one step below the morally obligated unit.¹ The immediate future of moral obligations financing is bleak. With the temporarily default of New York State's Urban Development Corporation in March, 1975, the general loss of confidence in MOs will be hard to straighten out. Further, interrupted financing will probably delay completion of projects for the UDC. This may lead to higher cost, reducing the projects' ability to pay, thus invoking still further the moral obligation of New York. Such unfavorable news in the market will further decrease the attractability of MOs and hence the costs of issuing MOs.

1. Moody's Bond Survey, September 17, 1973, p. 568-9.

Each of the following types, involves the issuance of tax exempt bonds by a state, municipality, or authority for the purpose of constructing facilities or purchasing equipment which is then leased to a private entity. This done under an off-shoot of the special fund doctrine called the "executory contract doctrine". The doctrine works in the following manner:

A contract between the lessor (issuer) and lessee (private corporation usually) is set up, whereby the lessee pays the periodic debt service on the bonds as rent. As long as the rent is calculated annually to the private entity the debt does not extend to the issuing jurisdiction. Hence, as long as the lease is legally binding, incurrence of debt and confrontation with constitutional and statutory restraints are avoided.

Industrial Development Bonds

The use of tax exempt credit to finance industrial development bonds actually had its beginning in the 1930s. Industrial development bonds (IDBs) were issued by state and local governments, primarily in the South, to finance plant and equipment expenditures to attract industries to their communities.¹ Because the use of IDBs were limited to small southern borrowers, they received little attention.

In the 1960s, however, their use rose dramatically with volume peaking in 1968 at \$1.59 billion. During that period, IDBs represented more than 10% of all long term tax exempts sold. Recognizing the abuses

of the tax exempt privilege and its threat to the more traditional users of municipal bonds limitations were placed on IDBS by the Congress and the U.S. Treasury. From 1970 - 1975, IDB volume dropped considerably from its 1968 peak to \$340 million (1975).² The only IDBs allowed to be sold are those whose issue size is less than \$5 million.

Tax Allocation Bonds

Limited obligations in this group are secured by increases in the property tax revenues that result from improvements made by the bond financing. The key feature is that bonds are secured by property tax revenues of a given area resulting from increases in taxable property. Tax allocation bonds (TABs) are usually used in development or renewal projects.

TABs are therefore issued by local redevelopment authorities, backed by a lease agreement on the facilities in the project. This type of financing is very risky in that if intended revenues from the project area fall short, the community is ultimately faced with an ethical question of having to bail out the project, or allow default (even though the community is legally free of responsibility).

In 1974, approximately \$250 million of these bonds appeared in the market, mostly issued by cities in California. However, many cities around the country are contemplating their use (as of 1976).

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1. Federal Reserve Board, Flow of Funds Data and "The Bond Buyer Annual".
 2. Ibid., 1.

Pollution Control Bonds

At the same time Industrial Development Bonds were being curtailed in use, a new bond type emerged under the executory contract doctrine, known as the Pollution Control Bond (PCB).

Passage of a flood of legislation to clean up the environment, starting in 1969 had the economic effect of requiring large-scale investment by industries into pollution control equipment and facilities.¹ The cost of this clean-up has been estimated at between \$5 billion to \$15 billion annually.

In its relatively short existence, the use of tax exempt bonds to finance pollution control expenditures for private corporations has grown tremendously. Starting in 1973, Pollution Control Bond volume has sold over \$2 billion annually. PCBs, in conjunction with 'conventional' IDBs represent approximately 10% of all tax exempt bonds outstanding in the market.

Although state governments are empowered to enter into agreements and sell debt, more typically, a special authority for the limited purpose is created by legislation.

Besides helping to clean up the environment, Pollution Control Bonds have served the same purpose in attracting industry to a region as IDBs. The attractiveness of PCBs include:

1. These Acts include: The National Environmental Protection Act of 1969 (N.E.P.A.); The Clean Air Act of 1970; and The Water Pollution Control Act of 1972.

1. Savings in interest costs for borrowed capital. Since bonds are tax exempt, they usually carry a coupon about 150 - 200 basis points lower than taxable corporate bonds, thus providing a company with lower net interest costs than otherwise possible.
2. In addition to interest cost savings, tax exempt bonds are not subject to S.E.C. registration fees required of corporate issues.
3. Acquired facilities may also receive advantageous tax treatments. The leasing firm can depreciate the facility and in some cases deduct a part of the lease-payments as a business expense. Pollution Control facilities are also usually exempted from state and local taxes.

From the standpoint of the industrial borrower, the advantages, as cited above, provide a great inducement for companies to use Pollution Control Bonds. But from the standpoint of the state and local borrower, this increases the supply of tax exempts, in relation to demand; forcing up interest rates; adding costs to all borrowers; and reducing the efficiency of tax exemption as a subsidy.

On the basis of an econometric study by the Harvard Institute of Economic Research, Pollution Control Bonds in 1974 increased total long term tax exempt rates by 30 basis points.¹

Since most PCBs are privately placed, the true amount of pollution control financing is unknown. The Urban Institute accounting for this private placement has come up with a larger estimate of PCB volume. They estimate that PCBs probably accounted for a rise of about 80 - 85 basis points in municipal bond yields.²

1. Harvard Institute of Economic Research Research Report, Financial Impact of Federal Water Pollution Control Act, Peter Fortune, 1974, p. 12.

Hospital & Health Financing Bonds

These bonds represent the third major type of bonds issued under the executory contract doctrine. Hospital bonds are limited obligations used to finance the acquisition or construction of health care facilities. In 1974, The Bond Buyer reported that \$1.29 billion worth of "Hospital" bonds were sold with 1975 volume increasing to almost \$2 billion. Most bonds in this category are issued under a lease-rental agreement with a special authority. Payments of debt-service are secured by revenues from the sponsoring hospital which include Federal Medicare and Medicaid payments.

Because of the novelty and newness of these bonds, in terms of purpose and security, interest costs of up to 9 1/2% have been reported. As with PCB and IDB, the overall effect has been to increase the supply of tax exempts which has raised interest costs for all municipal borrowers who must compete for the limited funds seeking tax shelter.

2. Fortune , "Trouble with Municipal Bonds is Not Just New York" December, 1975, p. 175.

Housing and Mortgage Financing Bonds

Housing and Mortgage Financing Bonds are a set of obligations which grown very rapidly since 1968. Tax exempt borrowing is used to finance housing construction, either directly or by purchasing private lender mortgages. Total debt outstanding in 1975 was nearly \$6.3 billion. In 1975, 32 states, financing approximately 270,000 housing units have utilized housing finance obligations.¹

Used specifically by State housing agencies, four basic programs exists:²

1. Mortgage loans; the state agency makes direct loans to purchasers of housing.
2. Mortgage purchases; the state may purchase from originators of new mortgages.
3. Direct development; the state engages in the construction and ultimate operation or sale of multi-family housing projects.
4. Lender loans; loans are made directly to private lenders who are required to make new loans and to collateralize their loans from the state agency.

These obligations have been given special variance under the arbitrage bond regulations to allow them a higher markup between their borrowing and lending rates.³

State housing agencies have traditionally depended upon the availability of housing subsidies from the Federal Government. The

1. Housing and Development Reporter, State Housing Finance Agencies, November 17, 1975, p.49.

2. Ibid., p. 43.

3. Ibid., p. 50.

1968 Urban Development Act under sections 235 and 236 led to the creation of most State housing agencies in the late 1960s and early 1970s. With the impoundment of Federal housing assistance programs in 1973, the agencies switched to section 23, leased housing programs. Collaterally, they developed indirect assistance programs to support the mortgage market. Typically, these permitted original lenders to liquidate their existing holdings by selling them to State mortgage finance agencies which in turn, sold tax exempt bonds in the capital markets. The fact that many of the mortgages were guaranteed by FHA or VA (double-barreled guarantee) enhanced the security of the borrowings. Although, technically many housing agency activities fall in the category of industrial development bonds they were spared from the tax exempt market by virtue of the exclusions written into section 103 in the 1969 Tax Reform Act.

The Housing and Community Development Act of 1974 provided a role for the agencies by replacing section 23 with section 8, which is basically a leasing program that shifts financial risk to the developer and owner. Agency activities have been encouraged by HUD in making bulk set asides of section 8 subsidies. Devising a workable financing scheme has presented problems for the agencies, but these problems have not deterred them from continuing support of the housing market.

In 1974, State agencies borrowed in the long term market \$1.5 billion and \$2.2 billion in the short term note market. State borrowing to support housing therefore represented about 6% of the annual bond borrowing and approximately 8% of the note market.

With approximately \$4.7 billion in long-term housing finance obligations outstanding, the prospects of strong continuing support of the housing market will keep supply up. Agency participation has continued in spite of the high interest rates associated with its debt.

Although support of the housing industry is needed, the use of tax exempt bonds for housing market support has caused a number of problems. First, the heavy volumes of supply have brought increased pressures on interest rates in the total state and local debt market. The degree of this impact depends upon the volumes of short and long term issuance. Obviously, the short term market is harder hit by housing finance obligations, due to the larger short term volume. Second, it has been criticized as a misuse of public funds, especially when proceeds are channeled directly to private mortgage activities and to the refinancing of conventional mortgages. Accordingly, the impact of the increased housing finance obligations, as well as all non-conventional supply has been to lessen the value of tax exemption for all state and local participants by increasing the overall market yields.

Reduction in the Volume of Municipal Bond Supply

As indicated above, the expansion in purpose of municipal bond borrowing has greatly swollen the supply side of the market. With novel legal and financing arrangements allowing issuers to circumvent constitutional and statutory restrictions on borrowing, the volume of non-conventional debt has been tremendous. Issuers, in recent years, have exhibited an almost indiscriminate use of municipal bond issuance. In the period from 1970 - 1975, state and local government borrowing has expanded in purpose to include subsidization of convention centers, private colleges, athletic stadiums, and even privately owned baseball and football teams.¹

The volume and variety of non-conventional debt in the market has been so great that a dislocation of traditional issuers for higher yielding non-traditional debt has come about. The impact of this increased volume of non-conventional debt has increased the total costs of long term borrowing. Estimates of the rise in municipal bond market interest rates range from 30 basis points to over 85 basis points.

The principle subject of this controversy is the pollution control bond. Reported volume of PCBs in 1974 was so great that its volume was only \$200 million less than the total amount of traditional purposes of municipal bonds. The action being contemplated by Congress is similar to that taken to limit the use of industrial development bonds in 1969. Almost all public interest groups including the SIA

have supported proposed action to eliminate, or at least reduce PCB volume.

The preceding analysis has sought to give the reader a thorough understanding of the various obligations which have emerged in the tax-exempt market in recent years. The obligations described above, as we shall read in later chapters, are very important because the enormity of their issuance in recent years has had a negative effect upon traditional borrowers by increasing the total supply relative to demand and hence increases the costs of borrowing for all issuers.

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1. Kimball, Ralph C., "States as Financial Intermediaries", New England Economic Review, January/February, 1971.

CHAPTER SIX

SUPPLY SIDE ANALYSIS

Having looked at the problems and mechanics in the municipal bond market, Chapter Six and Seven will attempt to look specifically at the flows in the market and indicate the historical shifts that have occurred in the market since the 1960s. A statistical analysis of the municipal bond market is most critical in understanding the patterns of supply and demand.

A surprising lack of information on flows in the market is evidenced in the conclusions of a Joint Economic Committee report on state and local borrowing:¹

" Those that have the occasion to analyze the municipal securities market and those who have endeavored to compare statistics will appreciate that while ... all sorts of data are available very little has been done to link the statistics together."

The following is an attempt to do exactly that. The data is derived from a variety of sources including: Federal Reserve Flow of Funds data, The Bond Buyer, Securities Industry Association's Municipal Market Developments - Economic Research Department, U.S.

1. L.J. Paradiso, M.A. Smith, Office of Business Economics, U.S. Dept. of Commerce, "State and Local Government Capital Expenditures in Relation to National Economic Activity, With Projections to 1975" Found in Joint Economic Committee Report - State and Local Public Facility Needs and Financing, p. 5.

Census Bureau - State Governmental Finance, City Government Finance.

The supply side of the municipal bond market represents bonds issued by state and local governments, their agencies, and authorities. The volume of total tax-exempt financing has increased tremendously. The composition of suppliers in the market has also changed. This increased volume and changing mix of suppliers has greatly effected the structure of the municipal bond market.

In analyzing the supply of municipal bonds in the market, we are interested in the relationships between purposes, types of use, and type of issues sold in recent years. This analysis will demonstrate the relative increase in non-traditional type obligations and changes in the type of issuers. An analysis of the composition of municipals provides an adequate index of the scope of activities being performed by state and local governments.

BY PURPOSE

The total volume of tax-exempt debt outstanding has increased more than three-fold in the last fifteen years. Total volume of tax-exempt securities outstanding has grown from \$71.7 billion in 1960 to \$235.4 in 1975 (see 6-1). However, these aggregate figures of municipal bond debt mask the variety of purpose and growth of bond types in the market. The following will give a more detailed account of the market by purpose.

As indicated in the preceding chapters, the scope of public purpose has widened greatly in the last fifteen years. This growing variety of uses of municipal bond debt can be seen in 6-2. As this table indicates the largest percentage declines in municipal bonds

Exhibit 6 - 1

MUNICIPAL BOND DEBT OUTSTANDING, 1944 - 1974

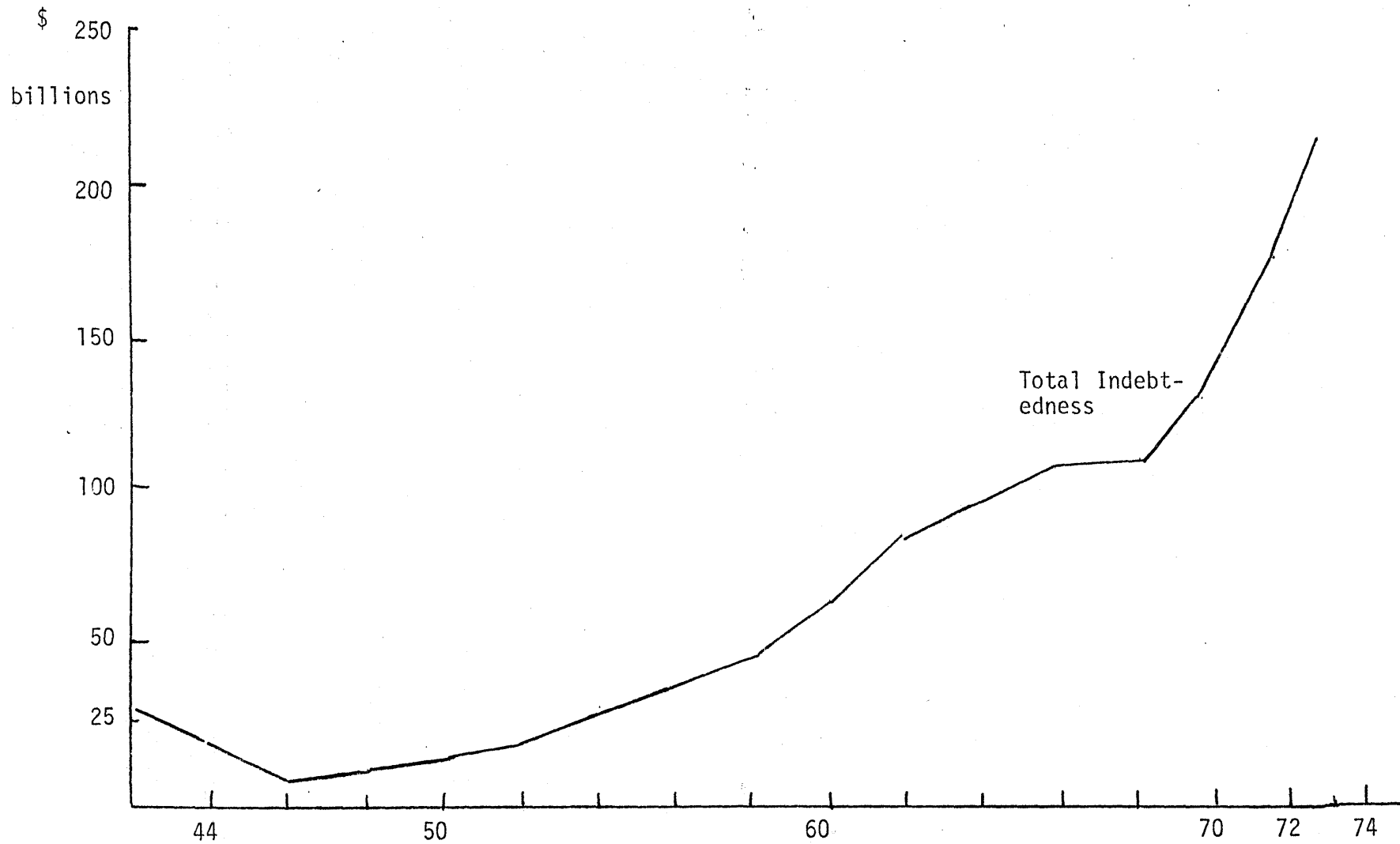


Exhibit 6 - 2

PERCENT MUNICIPAL BONDS SOLD BY PURPOSE (FOR SELECTIVE YEARS)

Purpose	1960	70	72	74	75	Net change
Education	32.1	27.8	21.0	19.5	16.1	-15
Industrial Aid	.6	.6	1.4	2.1	1.6	+ 1.0
Other(Gen'l Purpose)	21.5	23.2	22.4	26.8	33.8	+12.3
Social Welfare	8.4	8.1	16.1	18.3	14.8	+ 6.4
Public Housing	6.0	.7	8.1	6.9	2.3	- 3.7
Hospital	NA	NA	2.1	3.2	6.8	+ 4.7
Other	2.4	7.2	5.9	8.2	5.8	+ 3.4
Transportation	18.4	17.5	12.6	7.0	7.0	-11.4
Utilities	18.3	19.2	19.8	23.3	23.5	+ 5.2
Water & Sewer	14.3	13.3	10.3	8.2	8.7	- 5.6
Pollution			2.5	7.1	7.1	+ 4.6
Other	3.9	5.9	6.9	8.0	7.7	+ 3.8
Total %	100.0					
Total(\$ in billions)	7.11	18.11	23.69	24.24	31.10	

Source: The Bond Buyer, Annual Statistics; Federal Reserve, Flow of Funds.

were: education 15.0%; transportation 11.4%; and water and sewer bonds 5.6%. In 1960 these three general purpose issues amounted to \$4.6 billion, or 65% of the total new issues market. By the end of 1975 however, their combined market share had fallen to 32%.

Net increases, in the same period were registered for bonds to private business. The most significant of these were Pollution Control Bonds which increased in 1973 from 2.5% to 7.1% in 1975, of the total volume of state and local bonds sold.

Given the nature by which the data on tax-exempt securities are reported, a substantial portion of total municipal bond sales are aggregated into categories which prevent detailed analysis. This has made distinguishing trends by purpose somewhat blurred. Increases of municipal bonds in categories which could not be placed under distinct headings is readily noticeable in 6-2. In this table the category "Other Social Welfare Purposes" increased to almost 3.4% of the market since 1974. Also "Other Utility and Conservation Purposes" increased 3.8% in the same period.

6-3 gives a more detailed breakdown of municipal bonds by purpose. This data substantiates in dollar terms the increases in the scope of new purpose tax-exempt bonds. In particular, are additions since 1973 of a category referred to as revenue bonds.

These include tax-exempt: Gas and Electric Utility Bonds, which has increased to \$2.4 billion since 1973; Health and Hospital Financing Bonds - \$1.3 billion since 1974; and Pollution Control Bonds - \$5.3 billion since 1973.

Exhibit 6 - 3

MUNICIPAL BONDS SOLD BY PURPOSE, 1966 - 1975

(in millions)

Purpose	75	74	73	72	71	70	69	68	67	66
Schools	4 929	4 807	5 349	5 723	4 983	3 174	4 717	4 454	3 719	3 617
Water&Sewer	2 120	2 296	2 841	3 618	2 329	1 357	1 887	1 947	1 637	1 905
Highway, Bridge,&Tunnel	981	1 453	2 082	2 718	1 497	1 572	1 564	1 140	1 493	966
Gas&Electric	1 106	1 244								
Hospital	1 292									
Industrial Aid	340	269	471	219	48	24	1 585	1 325	504	211
Pollution Control	2 179	2 094								
Public Housing	461	1 029	959	1 000	131	398	525	448	440	464
Veterans	673	414	260	307	213	147	155	165	90	50
Other	8 742	9 345	10 979	10 784	8 560	4 778	5 940	4 779	3 205	3 871

Source: Statistics compiled by the Bond Buyer; Industrial Aid and Pollution Control data furnished by SIA, Economic Research Department.

To illustrate the points discussed above graphically, 6-4 charts the trends of new issue municipal bonds by purpose. Throughout the 1960s capital expenditures for school, highway and bridge, and water and sewer construction grew rapidly, except for the tight money conditions which prevailed all the credit markets in 1966 and 1970-1971 (this is a major factor influencing municipal bond participation which will be discussed in detail in Chapter 9). Capital expenditures for these traditional purposes dropped quite rapidly in the 1970s.

The tremendous increase of bonds in the category "other," again reflects the non-specificity of municipal bond categories. Due partly to the widening scope of public purpose, a large proportion of this increase is reflected in a trend toward using consolidated and general purpose issues which cannot be identified clearly with respect to purpose. 6-4 also depicts the trends of tax-exempt financing for industrial development or private business activity. The 1960s saw the rapid emergence of the Industrial Development Bond (IDB) which grew from \$212 million in 1965 to \$1.6 billion in 1968. Following Federal legislation in 1969 (revision of IRS Section 103) restricting allowable uses of tax-exemption, IDB volume fell to an insignificant level in the market.^{1,2}

The composition of revenue bonds listed in 7-6 indicates in greater detail, changes in revenue bond composition in the 1970s. Most noticeable is the growth in lease-rental bonds. As was discussed in Chapter 5 lease-rental bonds are issued under the executory contract doctrine and are primarily issued by authorities to private

operators of a facility. In 6-6, this includes categories listed as: Pollution Control, Housing Finance, Hospital Financing, and Industrial Development Bonds. Increases in these sub-categories of revenue bonds represent by far the largest increase in municipal bond volume. Lease rental obligations, which were relatively non-existent in 1960, with \$190 million in the primary market increased over thirty fold to an estimated \$5.9 billion in 1975. Other obligations listed in the revenue bond category include special tax obligations (which are bonds payable from a tax such as gasoline, sales, cigarette, etc.). which increased from \$340 million to \$3.8 billion from 1970 to 1975; and Utility bonds which include gas and electric tax-exempts which initially entered the market in 1973 at a record \$1.2 billion, or approximately 4.1% of the total market.

To illustrate the increase in revenue bond participation as well as the concomittant decrease in GO participation, 6 -5 and 6-6 were constructed. The graph 6-5, indicates an apparent long-term reduction in GO debt down approximately 13% at its peak in 1969 (when it comprised 65.2% of the market) to approximately 52% in 1975. A corresponding increase in revenue bond participation has occurred in the last fifteen years. The most noticeable issues being the revenue obligations as characterized by the Industrial Development Bonds.

6 -5 depicts well the impact of IDBs on the total supply of revenue bonds. At its peak in 1968, IDBs accounted for almost 9.7% of the total new issues market. Also, it represented around a quarter of the total revenue bonds issued that year. With respect to revenue

Exhibit 6 - 4

MUNICIPAL BOND TRENDS SOLD BY PURPOSE

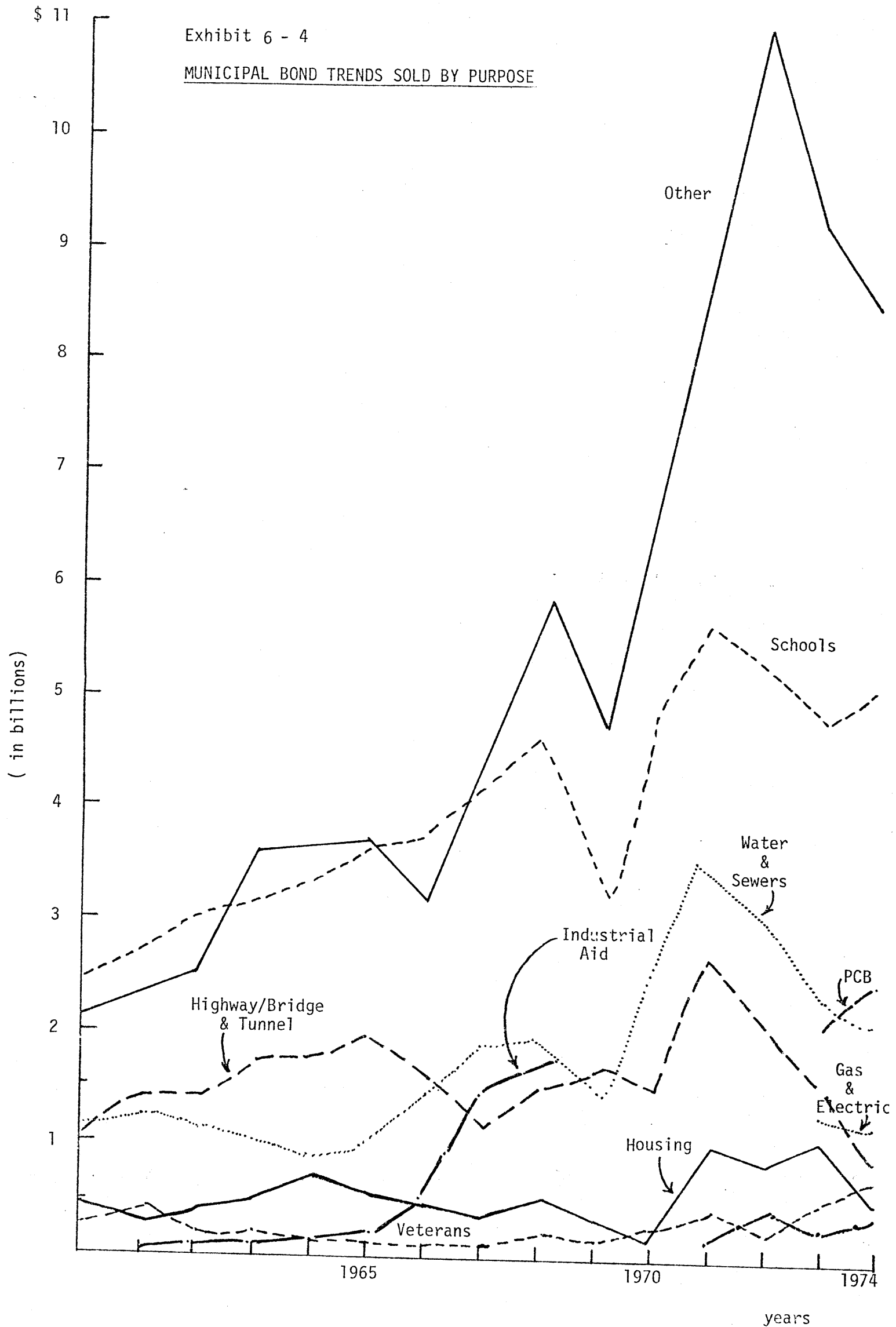


Exhibit6 - 5

PERCENT TOTAL OF G.O./REVENUE BOND BORROWING

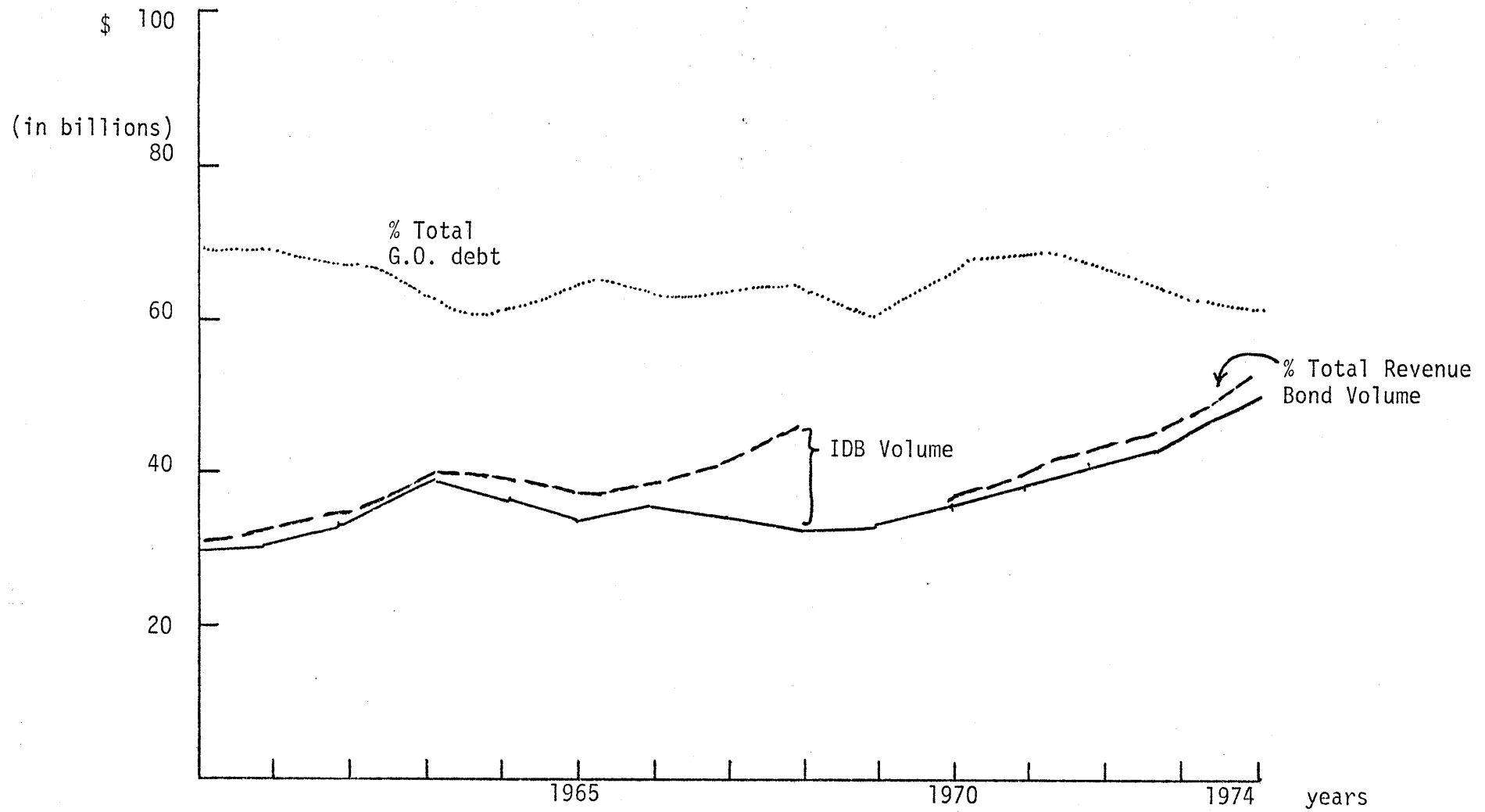


Exhibit 6 - 6

REVENUE OBLIGATION DEBT/ GENERAL OBLIGATION DEBT, FROM 1960 - 1975

Type	60	70	72	74	75
Revenue Obligation	2.07	6.10	9.40	10.21	14.50
Lease Rental	.19	1.17	2.17	3.22	5.90
Special tax	.08	.34	.25	.46	3.80
Utility	1.79	4.59	6.99	6.53	4.80
General Obligation	4.36	11.85	13.33	13.57	16.60
New Housing	.40	.13	.96	.46	--
Total	6.83	18.18	23.69	24.22	

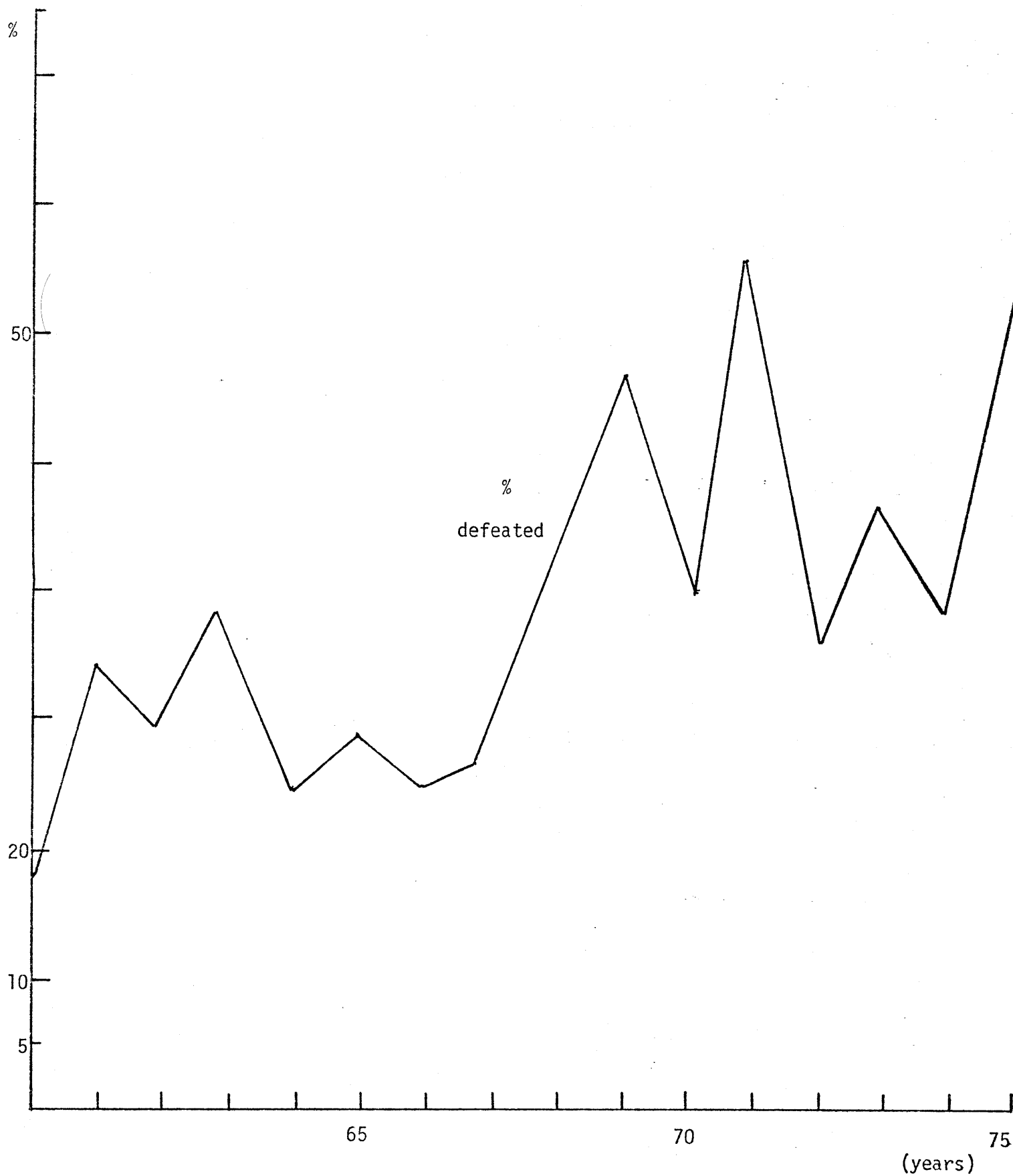
volume, 6-5 illustrates that in spite of federal legislation curbing non-conventional issuance of tax-exempt debt, revenue bond participation has increased steadily.

The diminishing role of general obligation debt has in part been a result of voter preferences on incurring additional debt. Tax-payers are growing more reluctant to approve state and local bonds in a bond election. Hence, state and local governments have accomplished many of their desired activities through limited obligations such as revenue bonds backed by special authorities circumventing voter referendum. This trend is evidenced in 6-7 on bond referendum results for state and municipal bonds. The data derived from the Bond Buyer and Securities Industries Association's Economic Research Dept. indicate that voters in the 1970s have changed their attitudes towards the incurrence of new indebtedness. In the first half of the 1960, bond election results indicate 36.4% of all state and municipal bonds up for election were defeated. A substantial increase in voter rejections of bond issues appeared in the first half of the 1970s with an average of 51.6% of bonds disapproved in bond referendums.

-
1. IDBs were excluded from tax exemption by the addition of Section 103 (c) (1) to the Internal Revenue Code by Public Law 90-364, Sec. 107, 90th Congress, June 28, 1968.
 2. Section 103 (c) (4) allowed exemptions of certain facilities financed by IDBs by restrictions on "size of Issue" exemptions. These included, residential property, sports facilities, convention facilities, transportation facilities, sewage, water, solid waste, and energy facilities, industrial parks, and air & water pollution control facilities.

Exhibit 6 - 7

MUNICIPAL BOND ELECTION RESULTS:
PERCENT TOTAL UP FOR ELECTION WHICH WERE DEFEATED, 1960 - 1975



Source: The Bond Buyer Annual; SIA, Economic Research Dept. Municipal Market Development, December, 1975.

Exhibit 6 - 7B

STATE AND MUNICIPAL BOND REFERUNDUM RESULTS BY VOLUME, 1964 - 1974

(in millions)

Year	Volume Approved	Volume Defeated
1974	8 021	4 865
1973	6 306	5 801
1972	7 876	4 446
1971	3 143	5 862
1970	5 366	3 194
1969	4 287	6 534
1968	8 686	7 450
1967	7 365	2 550
1966	6 516	1 945
1965	5 612	2 095
1964	5 714	1 583

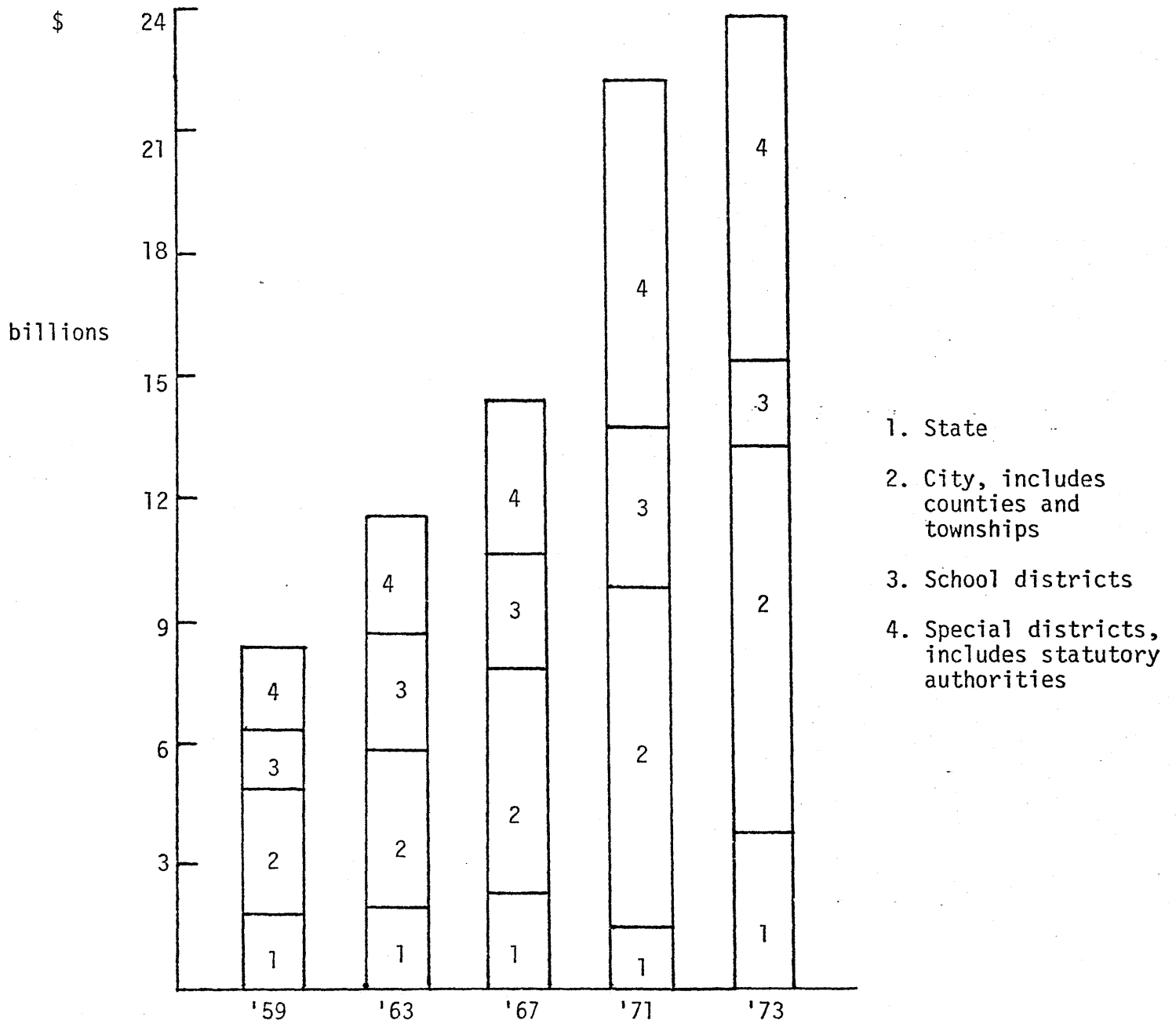
Source: "The Bond Buyer"

BY TYPE

Reflecting on the increasing scope of government activity, an analysis of supply, by type of government, provides a good illustration. Given existing data, 6-8 illustrates to some extent the changing composition of the government issuer in the market. As indicated in the bar chart, an increasing proportion of tax-exempt financing is being issued by authorities and special districts. One factor perhaps contributing to this growth is a recognition of an inadequacy of local governments to solve the problems which beset them. A change in the focus of state and local governments has occurred. The local government approach to providing a better quality of life and to ameliorate social conditions within the confines of a single jurisdiction is proving to be outmoded, costly, and insufficient in urbanized regions of the United States. Governments recognizing the limitations of solving problems on the local level have sought a more comprehensive approach by attacking these problems on a wider scale. These entities because of their increased powers are potentially better able to handle the complex problems resulting from urbanization. These increased powers include - obtaining an added basis of funding and comprehensive regional planning. for these problems come under such current categories in the market as -- social welfare (moral and housing obligations), energy conservation (electric and gas obligations), environmental protection (pollution control bonds), and economic development (industrial development bonds).

Exhibit 6 - 8

NEW ISSUE MUNICIPAL BONDS BY TYPE OF GOVERNMENT (FOR SELECTIVE YEARS)



SHORT TERM

The last major set of statistics to be discussed is the supply of short term (maturities of less than one year) notes.

6-9 indicates the supply of short term notes increased beginning in 1969 from \$12 billion to over \$29 billion in 1975. The principle factor determining participation in the short term note market has been the tight money conditions beginning in 1966 (although specifics will be covered in Chapter 9). Leading users of tax-exempt notes have been state housing finance agencies. Note sales attributed to these state agencies have been reported at \$2.4 billion or 8.2% of the short term market in 1974. Also, federally guaranteed U.S. Housing and Urban Renewal Notes increased their market share from \$3.9 billion in 1969 to \$11.4 billion in 1974.

Another factor increasing participation in the short term note market was the misuse of short term borrowing to forestall tax increases. This abuse of the tax-exempt privilege was executed almost solely by New York City. In fact, in 1974, New York City in one quarter alone borrowed almost \$7. billion in short term notes to cover shortfalls in their budget.¹

Note volume has increased to such an extent that short term notes issued annually, were greater than long term bond borrowing from

1. Weekly Bond Buyer, Jan. 6, 1975, p. 1.

Exhibit 6 - 9

LONG TERM / SHORT TERM BORROWING FROM 1965 - 1975

(in millions)

Type	65	66	67	68	69	70	71	72	73	74	75
Long term	11 084	11 089	14 288	16 374	11 460	17 762	24 370	22 941	22 953	22 824	31 000
Short term	6 337	6 524	8 025	8 659	11 783	17 880	26 281	25 222	24 667	29 041	29 000
Public Housing Auth.	1 865	1 740	1 780	2 062	2 675	4 563	5 961	6 483	6 638	6 808	--
Local Public Agencies	1 806	2 432	2 812	3 230	3 833	4 014	4 237	4 351	4 406	4 622	--

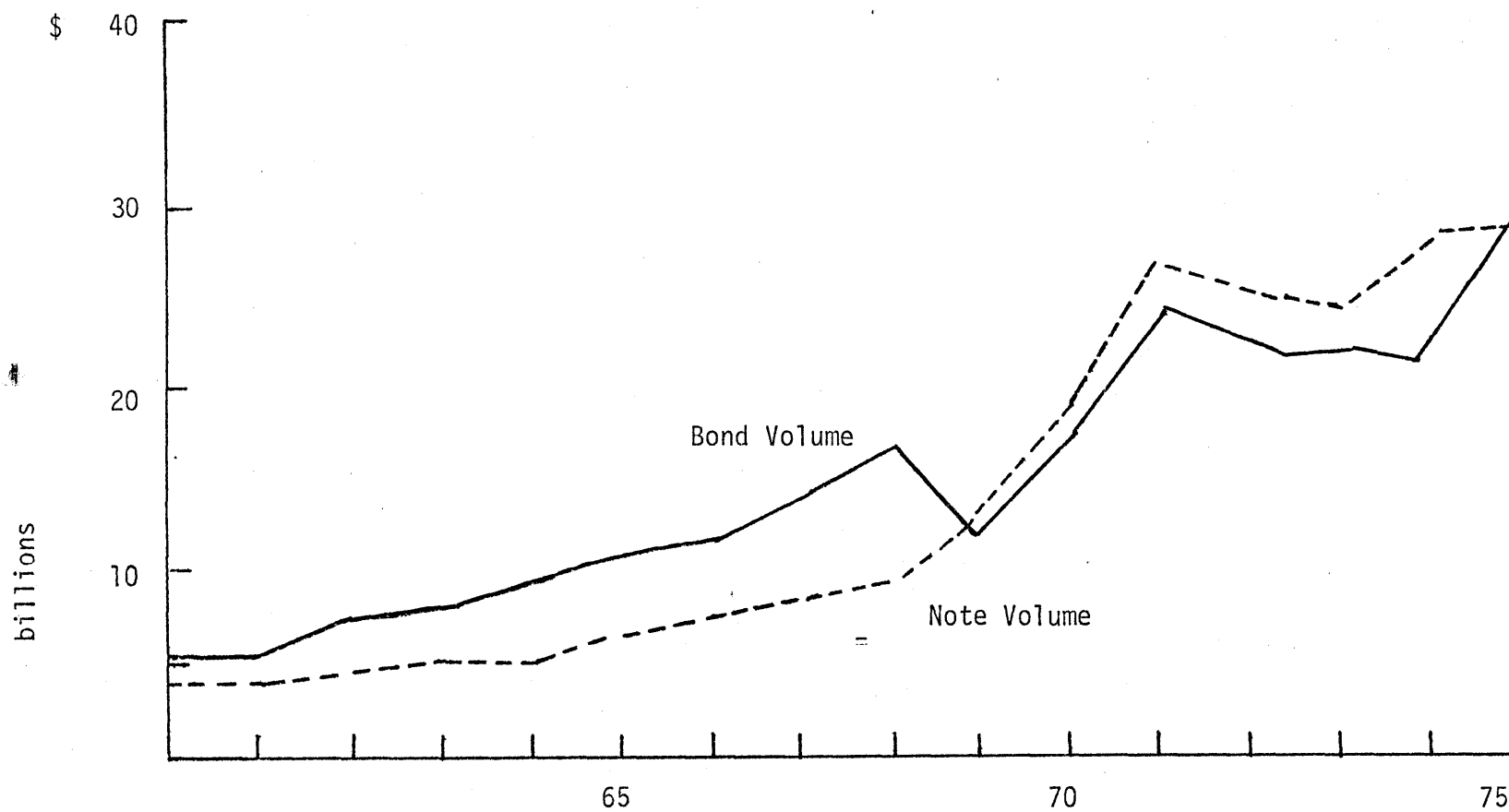
1969 to 1974. 6-10 illustrates this point graphically. Since the winter of 1974, short term note volume has been less than long term bond volume in the 1970s. Prior to this, the first half of the 1970s was dominated by short term issues. Volume in 1975 stabilized at the same general levels as recorded in 1974. This levelling off of short term supply is likely attributed to a barring from the market of New York City and State Agency note borrowers.

In summary, the supply side of the municipal bond market has grown steadily in the last 15 years. Aggregate figures of total volume outstanding masks the immense number of changes that have occurred in the composition of the market supply. Factors that have influenced tax-exempt supply include:

- Increases in the volume of short term note borrowing by state and local governments; which during the credit crunch of the late 1960s lead issuers toward short maturities in anticipation of lower interest costs.
- Increased use of revenue bonds due to :
 - an increased scope of public purpose activities
 - a greater reluctance on the part of voters to authorize debt through conventional borrowing
 - the use of revenue bonds as a recourse to circumvent bond referendums and other constitutional and statutory restrictions on conventional debt.
- Increases in non-conventional borrowing for areas such as social welfare, utility & conservation, the environment, and economic development activities.
- Relative decreases in the market share of such traditional purposes of tax-exempt financing as education, transportation, and water & sewer projects as growth stabilizes in the U.S.

Exhibit 6-10

NEW ISSUE BOND/NOTE VOLUME FROM 1960 - 1975



CHAPTER SEVEN

DEMAND SIDE ANALYSIS

The municipal bond market represents one group of securities within the capital markets. State and local governments which issue bonds must therefore compete with other capital market securities for funds. The success to which suppliers of municipal bonds can market their debt depends on the degree to which market participants on the demand side desire tax-exempt debt. An analysis of aggregate demand data to understand why investors in the market are attracted to tax-exempt municipal bonds is the subject of this chapter.

The most important influence on demand has been the tax-exempt feature of municipal bonds. The principle demanders of municipal bonds are therefore those investors subject to the highest federal income tax rates. The major demanders include: commercial banks; wealthy individuals and individual trusts; and fire and casualty insurance companies. Participation by wealthy individuals and trusts is determined by the progressivity of the federal tax structure for individuals. These individuals, therefore, buy municipal bonds in order to shelter their income from taxes. Commercial banks and fire and casualty insurance companies are subject to corporate income taxes and have participated strongly in the market. Their support of the market, however, relies more strongly upon factors such as monetary policy, inflation, changes in portfolio policy, and obviously profitability.

The remaining holders of funds in the capital markets show little or no interest in the relatively lower yielding municipal bonds. These investors, if not tax exempt, have other means of sheltering their income. Large holders of funds which are tax exempt include: non-profit foundations, pension funds, and colleges. Flow of funds data indicate negligible holdings of municipal bonds of less than 1%. Another major investor group, the "thrifts", which include mutual savings banks and savings and loans. These institutions are able to create "loan loss reserves", which are not taxed, thus decreasing their need for tax exempt income. While life insurance companies are taxed at the corporate rate, their participation in tax exempt securities is less active than fire and casualty insurance companies. This is because life insurance companies are allowed to allocate a certain percentage of their operating income to a reserve fund which is not subject to taxes.

Overall Patterns of Demand

To substantiate the demand for municipal bonds, Federal Reserve Flow of Funds data was examined. The data compiled in ⁷-1 and ⁷-2 indicate that the demand for municipals is furnished primarily by nine investor groups. The largest holder of state and local obligations were the commercial banks which held a total of \$102.5 billion of municipal bonds in 1975. This is followed by households which held \$81.6 billion and fire and casualty insurance companies which held \$35.0 billion. The combined holdings of these three investor groups alone total \$219.1 billion or 93% of the market in 1975.

Exhibit 7 - 1

DEMANDERS OF MUNICIPAL BONDS, 1966 - 1975

(in billions)

Type	75	74	73	72	71	70	69	68	67	66	65
Total Outstanding	235.4	214.2	193.5	177.4	162.0	144.4	133.1	123.2	113.7	105.9	100.3
Long Term	217.7	195.5	177.5	161.6	146.2	131.1	122.2	115.1	105.7	99.8	94.8
Short Term	17.7	18.7	16.0	15.8	15.7	13.3	10.9	8.1	8.0	6.2	5.5
Held											
Household	81.6	70.6	58.1	50.4	45.2	45.4	46.1	37.0	37.7	40.0	36.4
Corporate Busi.	4.5	4.7	4.0	4.2	3.2	2.2	2.8	3.8	3.3	3.6	4.6
State & Local Gen'l	2.6	2.8	2.5	2.3	2.1	2.4	2.2	2.2	2.1	2.1	2.2
Funds											
Commercial Banks	102.5	101.6	95.7	90.6	82.8	70.2	59.5	58.9	50.3	41.3	38.9
Mutual Savings Banks	1.5	.9	.9	.9	.4	.2	.2	.2	.2	.3	.3
Life Insur. Co.s	4.5	3.7	3.4	3.4	3.4	3.3	3.2	3.2	3.0	3.1	3.5
State & Local Retire.											
Funds	1.9	.8	1.4	2.0	2.1	2.0	2.3	2.4	2.4	2.5	2.6
Brokers & Dealers	.6	.7	1.1	.9	1.0	.9	.4	.6	.5	.5	.5
Other Insur. Co.s	35.0	32.5	30.1	26.5	21.7	17.8	16.3	15.1	14.1	12.6	11.3

Source: Federal Reserve, Flow of Funds

Exhibit 7 - 1B

ANNUAL PURCHASES OF MUNICIPAL BONDS, 1966 - 1975

(in billions)

<u>type</u>	<u>75</u>	<u>74</u>	<u>73</u>	<u>72</u>	<u>71</u>	<u>70</u>	<u>69</u>	<u>68</u>	<u>67</u>	<u>66</u>
Households	1.0	12.3	4.3	1.0	-.5	9.1	-.7	-2.3	3.6	3.6
Corporates	-.2	.7	-.2	1.0	1.0	-.6	-1.0	.5	-.3	-1.0
State and Local Gen'l Funds	-.2	.2	.2	.2	.2	.1	0	.1	0	-.1
Commercial Banks	.9	4.1	5.7	7.2	12.6	10.7	.6	8.6	11.1	2.3
Mutual Savings Banks	.6	0	0	.5	.2	0	0	0	-.1	0
Life Insur. Co.s	.8	.2	0	0	.1	.1	0	.2	-.1	-.4
State & Local Retire. Funds	1.1	-.5	-.6	-.1	.1	-.3	-.1	0	-.1	-.1
Brokers and Dealers	-.1	-.4	.2	-.1	.1	.5	-.2	.1	0	0
Other Insur. Co.s	2.5	1.1	3.9	4.8	3.9	1.5	1.2	1.0	1.5	1.3

Source: Federal Reserve Board, Flow of Funds

Exhibit 7 -2

PERCENT HELD OF MUNICIPAL DEBT OUTSTANDING, 1966 - 1975

Holders	75	74	73	72	71	70	69	68	67	66
Brokers & Dealers	.3	.3	.6	.5	.6	1.3	.5	.4	.5	.4
Commercial Banks	43.5	47.2	49.4	50.7	51.1	48.6	47.7	44.4	38.9	38.4
Corporate Busi.	2.9	2.2	2.1	2.4	2.0	1.9	3.1	2.9	3.4	4.6
Households	34.6	32.9	30.0	28.4	27.9	31.4	30.0	33.2	37.8	36.3
Life Insur. Co.s	1.9	1.6	1.7	1.9	2.1	2.2	2.6	2.6	2.9	3.5
Other Insur. Co.s	14.9	15.2	15.6	14.9	13.4	11.2	12.3	12.5	11.9	11.3
State & Local Gov't										
Gen'l Funds	1.8	1.3	1.3	1.3	1.3	1.7	1.8	1.8	2.0	2.2
State & Local Gov't										
Retire. Funds	.8	.4	.7	1.1	1.3	1.6	1.9	2.1	2.4	2.6
Mutual Savings Banks	.6	.4	.5	.5	.2	.1	.2	.2	.3	.3

Source: Federal Reserve, Flow of Funds.

Other holders of debt outstanding include (1975 data): corporate businesses, \$4.5 billion; state and local general funds, \$2.6 billion; state and local pension funds, \$1.9 billion; mutual savings banks, \$1.5 billion; life insurance companies, \$4.4 billion; and brokers and dealers, \$.6 billion. These six investor groups hold \$15.5 billion, or less than 6.9% of the total volume outstanding in 1975.

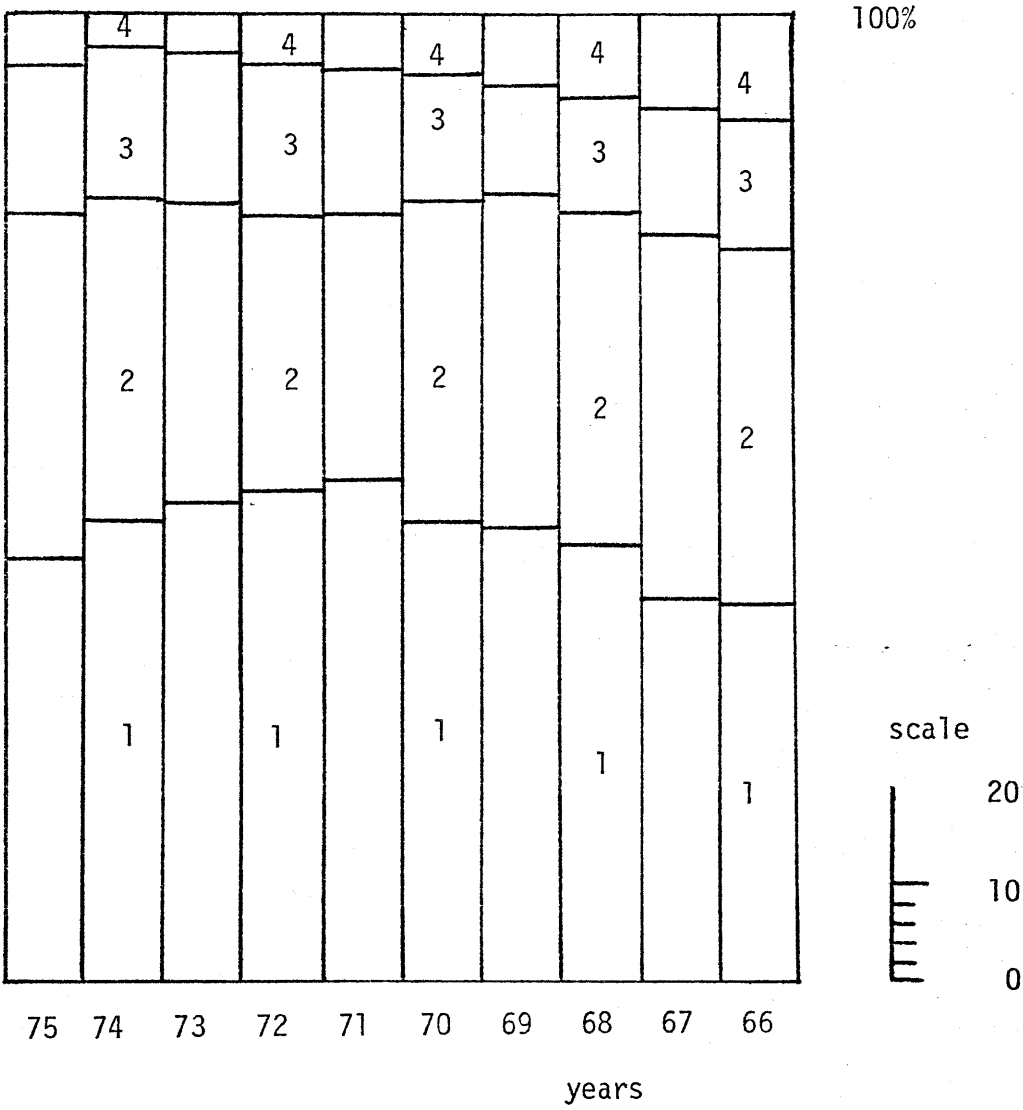
A bar graph on municipal bond holdings by percentages reveal a narrowing down of investors in the market. 7 - 3 illustrates the trends of investor participation from 1966 - 1975. Most noticeable are the growth in holdings by commercial banks, households, and fire and casualty insurance companies. Additionally, Federal Reserve System, Flow of Funds records available on the ownership of municipal bonds since 1933 substantiate the above facts and indicate that these three investor groups have represented between 70% - 90% of the demand for municipal bonds since 1945.¹

A chart on ownership patterns of major demanders illustrates more clearly the changes that have occurred in the market since 1965. As is clearly illustrated in 7 - 5, the long term dominance of commercial banks, households, and fire and casualty insurance companies. The overall impression characterizing the nature of the market is the sharp demand patterns of these major investors.

1. Federal Reserve System, Flow of Funds Account 1945 - 1972, p. 139.

Exhibit 7 - 3

PERCENT COMPOSITION OF DEMANDERS



- 1. Commercial Banks
- 2. Households
- 3. Other Insurance Co.s
- 4. Remaining six investor groups

Exhibit 7 - 4

TOTAL VOLUME OF MUNICIPALS HELD

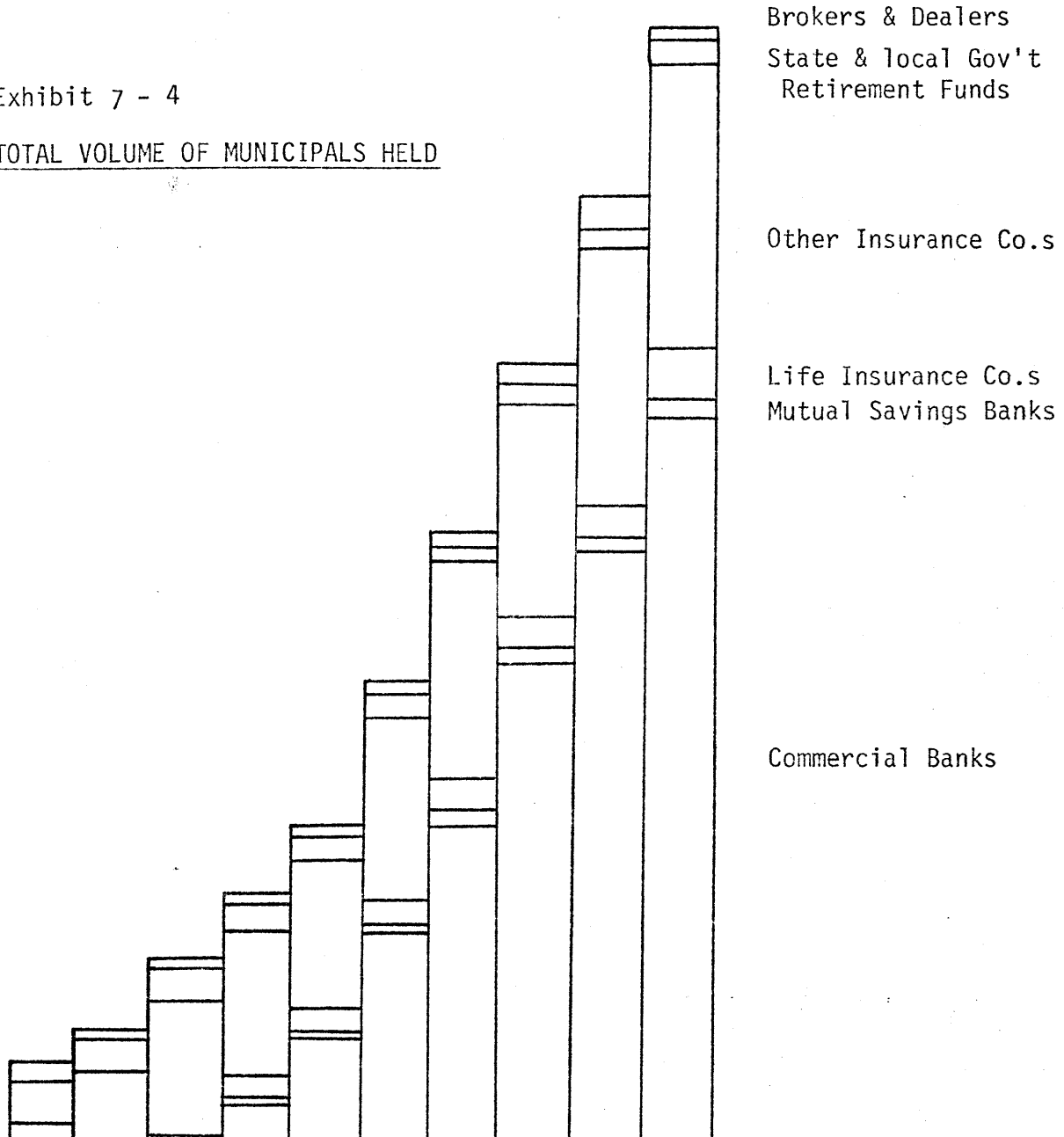
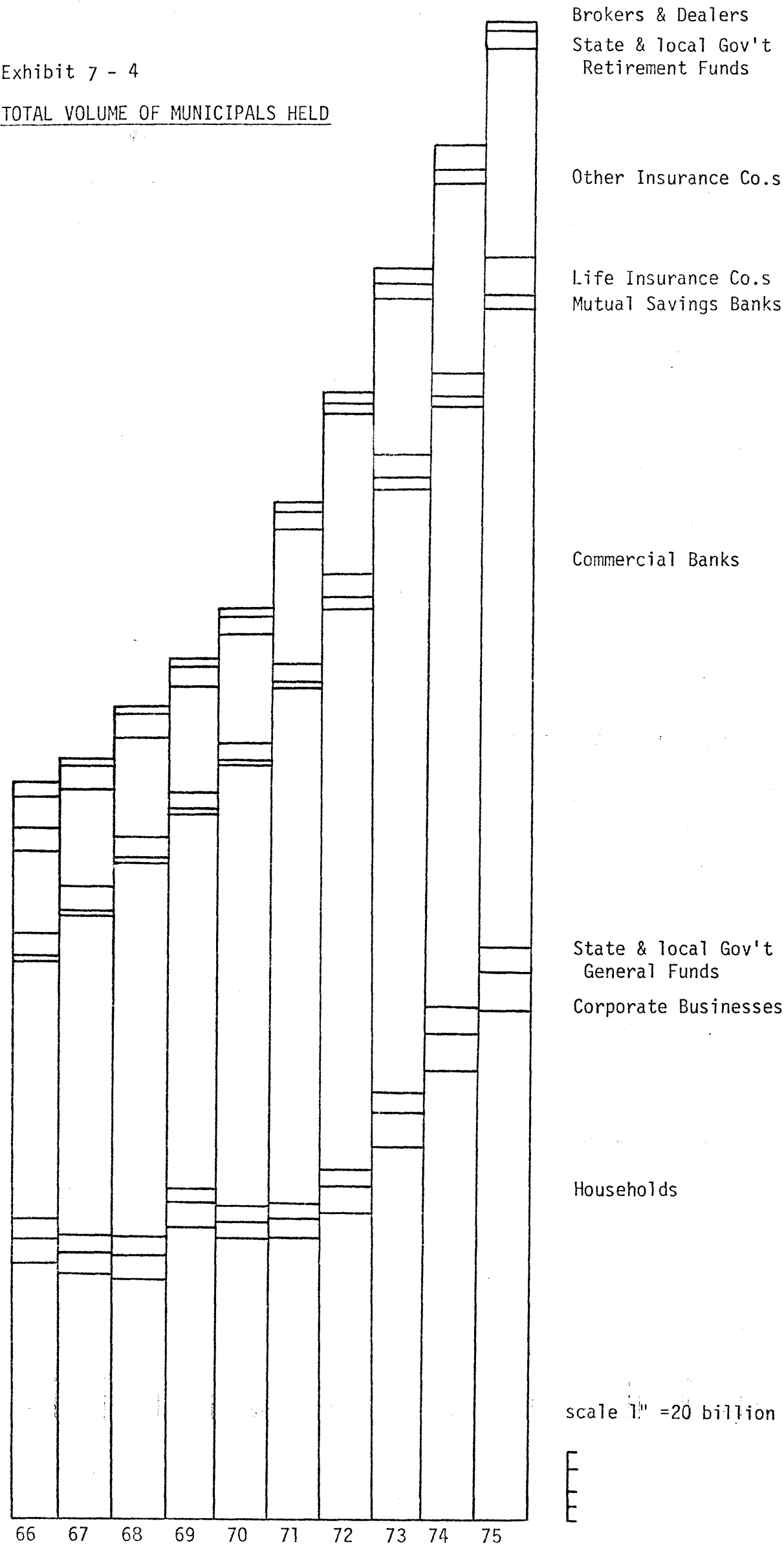
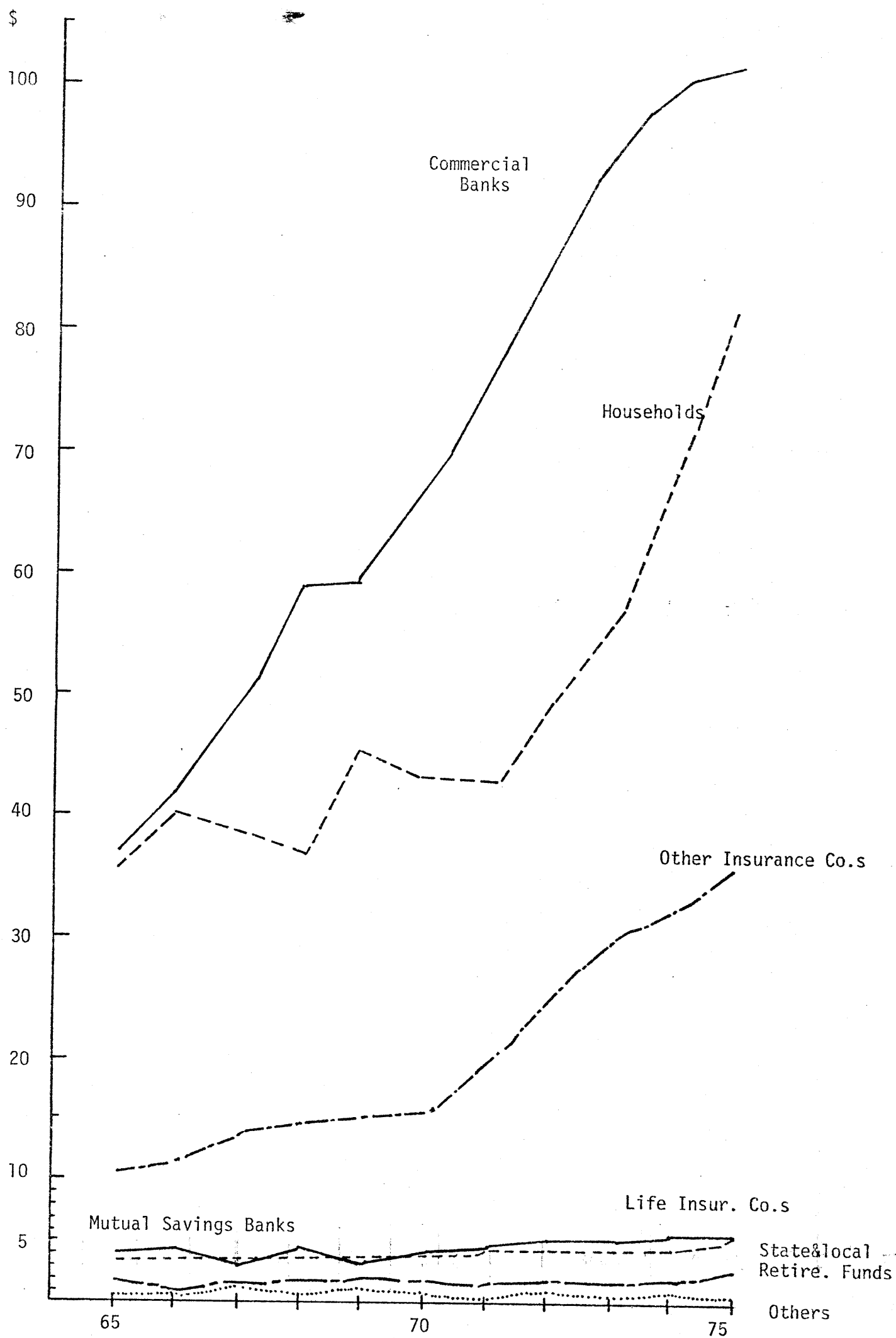


Exhibit 7 - 4

TOTAL VOLUME OF MUNICIPALS HELD



DEMAND TRENDS BY HOLDERS, 1965 - 1975



\$

23

Exhibit 7 - 6

ANNUAL FLOW OF FUNDS TO
MUNICIPAL BONDS

earlier data from R. Heufner,
Taxable Alternatives to
Municipal Bonds; later data
from Federal Reserve, Flow
of Funds.

Total

Individuals

Others

Other Insurance Co.s

Commercial Banks

billions

15

10

5

0

-1

-2

60

65

70

75

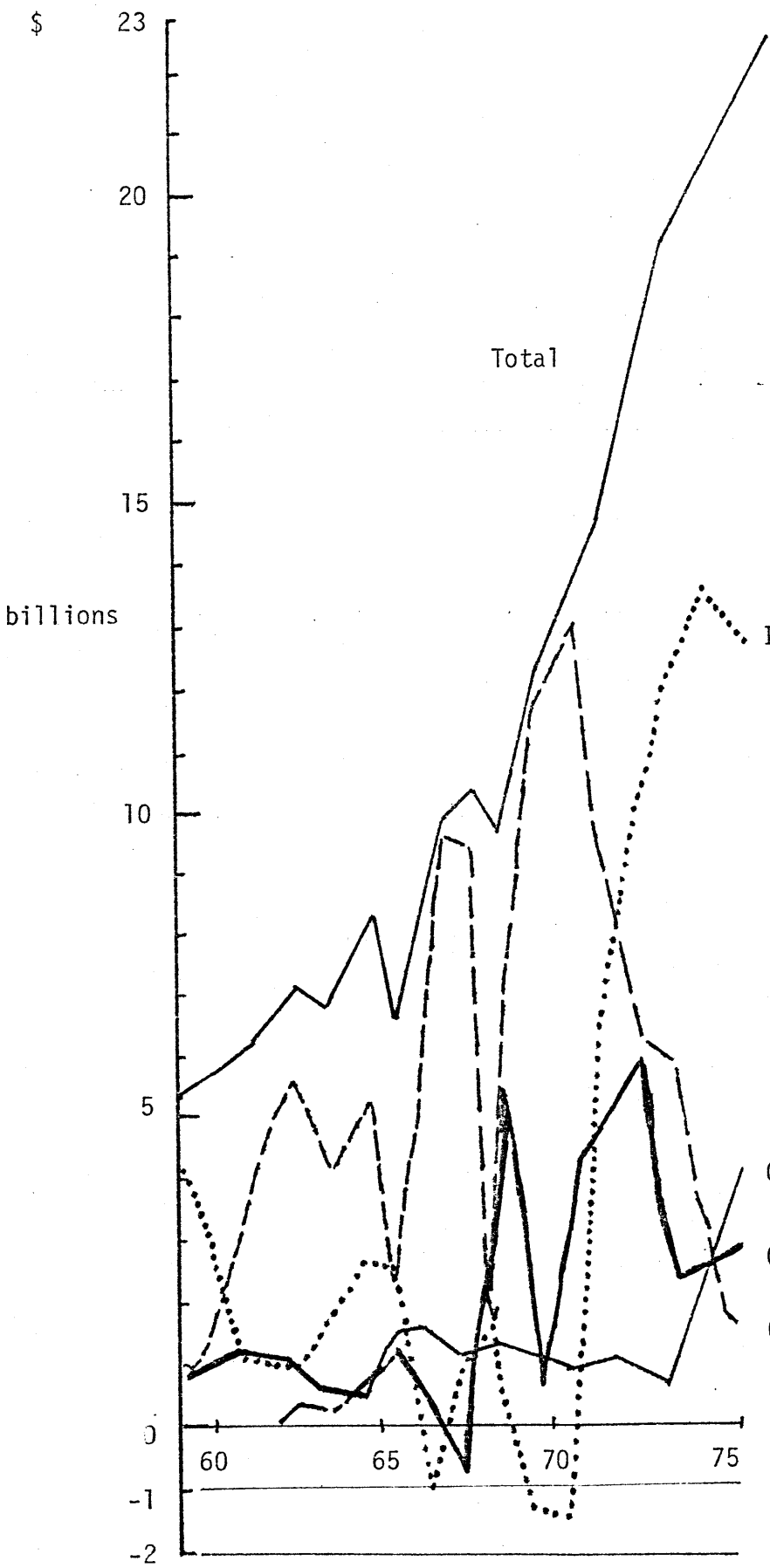


Exhibit 7 - 7

ANNUAL CHANGES IN HOLDINGS OF MUNICIPAL BONDS, 1960 - 1975

(in billions)

years	Commercial banks	F&C Insur.	Indiv.s	Other	Net Change
1960	.7	.8	3.5	3.0	5.3
1961	2.6	1.0	1.2	1.0	5.1
1962	5.6	.8	-1.0	-1.0	5.4
1963	3.9	.7	1.0	.1	5.7
1964	3.6	.4	2.6	-.6	6.0
1965	5.2	.4	2.7	0	7.3
1966	2.3	1.3	3.6	-1.6	5.6
1967	9.1	1.4	-2.2	-1.5	7.8
1968	8.6	1.0	-.8	.7	9.5
1969	.6	1.2	9.6	-1.1	10.8
1970	10.7	1.5	-.8	-.1	11.3
1971	12.6	3.9	-2.2	1.3	17.6
1972	7.6	4.8	1.0	1.4	14.4
1973	5.7	3.9	4.3	-.2	13.7
1974	5.5	1.8	10.0	.1	17.4
1975	1.3	2.5	11.0	1.0	15.8

Source: Federal Reserve, Flow of Funds.

Exhibit 7 - 8

COMPARISON OF MAJOR DEMANDERS BY DECADE, 1950 - 1975

Sector	1950	%	1960	%	1970	%	1975	%
Commercial Banks	8.2	32.6	17.7	25.	70.2	48.0	102.5	43.5
Households	10.0	39.6	30.8	43.5	47.4	32.5	81.6	34.7
Fire & Casualty Insurance Co.s	1.1	4.4	8.1	11.5	17.8	12.2	35.0	14.9
Others	5.9	23.4	14.2	20.	10.8	7.3	16.3	6.9
	<u>25.2</u>	<u>100.0</u>	<u>70.8</u>	<u>100.0</u>	<u>156.2</u>	<u>100.0</u>	<u>235.4</u>	<u>100.0</u>

Source: Federal Reserve, Flow of Funds; The Bond Buyer "Annual"

As shown in 7 - 6 and 7 - 7, in 1970 93.8% or \$11.2 billion worth of new issue volume were bought by commercial banks alone. However, just five years later, commercial bank purchases accounted for only 8.4% of demand with the households increasing total purchases to 65.6%. This extreme volatility of the market's major participants has become an important demand trend in the post World War II period.

In the 1950s, commercial bank participation represented approximately one-third of the market. In the mid-1950s, however, commercial banks began to decrease their holdings of municipals. To make up for this decrease in commercial bank participation, the household sector increased its holdings to become the dominant buyer of tax-exempts by the end of the decade. This relationship between household and commercial bank participation was to become a very important trend in the municipal bond market.

Starting in 1961, commercial banks began to increase their participation. Bank holdings, in fact, jumped from 25% of total debt outstanding in 1961, to 48% by 1970. This percentage increase was quite substantial in light of the fact, supply had increased 217%. Total commercial bank holdings in dollar terms increased from \$16.8 billion, in 1960, to \$70.2 in 1970. Accordingly, commercial banks surpassed the household sector as the leading holder of municipal bond debt in 1965.

Although commercial banks have maintained their lead as the major holder of municipals, the market in the late 1960s was characterized by erratic swings in annual commercial bank purchases, as shown in 7 - 6. From 1968 to 1972 annual purchases ranged from \$8.6 billion, in 1968 to

\$0.6 billion in 1968 to 1969, and backup to \$7.2 billion in 1971 to 1972.

From 1972 to 1975, commercial bank participation has continued to slidewith the period ending December 31, 1975 showing commercial banks adding only \$1.3 billion. This was despite record yields and supplies of tax-exempts in the market.

As a trend noted in the late 1950s and early 1960s (see 7 - 6), the household sector has provided the off-setting investment against changes in commercial bank participation. Most noticeable in the late 1960s; in 1968 to 1969 when annual purchases by commercial banks contracted from \$8.6 billion to 600 million, household sector purchases went from \$800 million to \$9.6 billion. Similiar inverse movements between the commercial banking and household sectors are noticeable in 1969 - 1971 and 1974 - 1975.

The other major demanders of municipals are the fire and casualty insurance companies; shown in 7 - 6 as "other insurance companies". Demand trends are also very volatile with sharp changes in holdings noticeable in 1965 - 1966, 1970 - 1971, and 1972 - 1973.

To explain these erratic movements in municipal bond holdings by commerical banks, fire and casualties, and households, careful examination of their activities and the reasons they buy tax-exempts will be analyzed. Correlating these factors determining demand participation with past investment patterns will substantiate the impact and significance of each factor.

Commercial Banks

The growth of commercial bank participation can be characterized as being both rapid and irregular. The irregularity of commercial bank holdings is primarily due to the purposes for which municipals are bought. The rapidity of municipal bond growth is due to a high sensitivity of tax-exempt securities to changing conditions in the commercial banking environment.

The purposes for which commercial banks purchase municipals are the following:

- a. municipals provide for liquidity needs after funds for loans have been met.
- b. municipals provide tax sheltered income for commercial banks.
- c. municipals are held for pledging purposes or as collateral required for holding public deposits of state and local governments.

As indicated in a. municipal bond purchases are a secondary or residual function, relative to commercial banks' primary priority of meeting loan demands. Given this relationship, if loan demands during a period are high, funds usually going to the municipal bond portfolio account would be cut in order to provide additional funds to the loan accounts.

Immediately following World War II, commercial banks were in a highly liquid position. They possessed large volumes of U.S. Governments and little loan demand. With the large reserves of funds it had

available, tax-exempt municipal bonds proved to be quite attractive.

In the early to mid 1950s economic growth in the country lead to increased loan demands on commercial banks. With the residual nature of municipal bonds, bank purchases of these securities slowed down to meet the loan demand pressures. The decreased rate of purchases relative to the expanding supply, resulted in a percentage decrease in total municipal bonds held from 32.2% in 1950 to 25.3% by 1959.

In the 1960s some significant changes in commercial bank participation developed. Starting in 1961, commercial banks were allowed to sell marketable "certificates of deposits" (CDs). Attracting substantial time deposits to the banks, CDs offered a new supply of funds. The added CD funds were used to meet loan demands by commercial banks. This reduced the dependence of the banks' investment portfolio to meet loan demands, thus allowing an increase in longer term holdings of tax-exempt municipals.

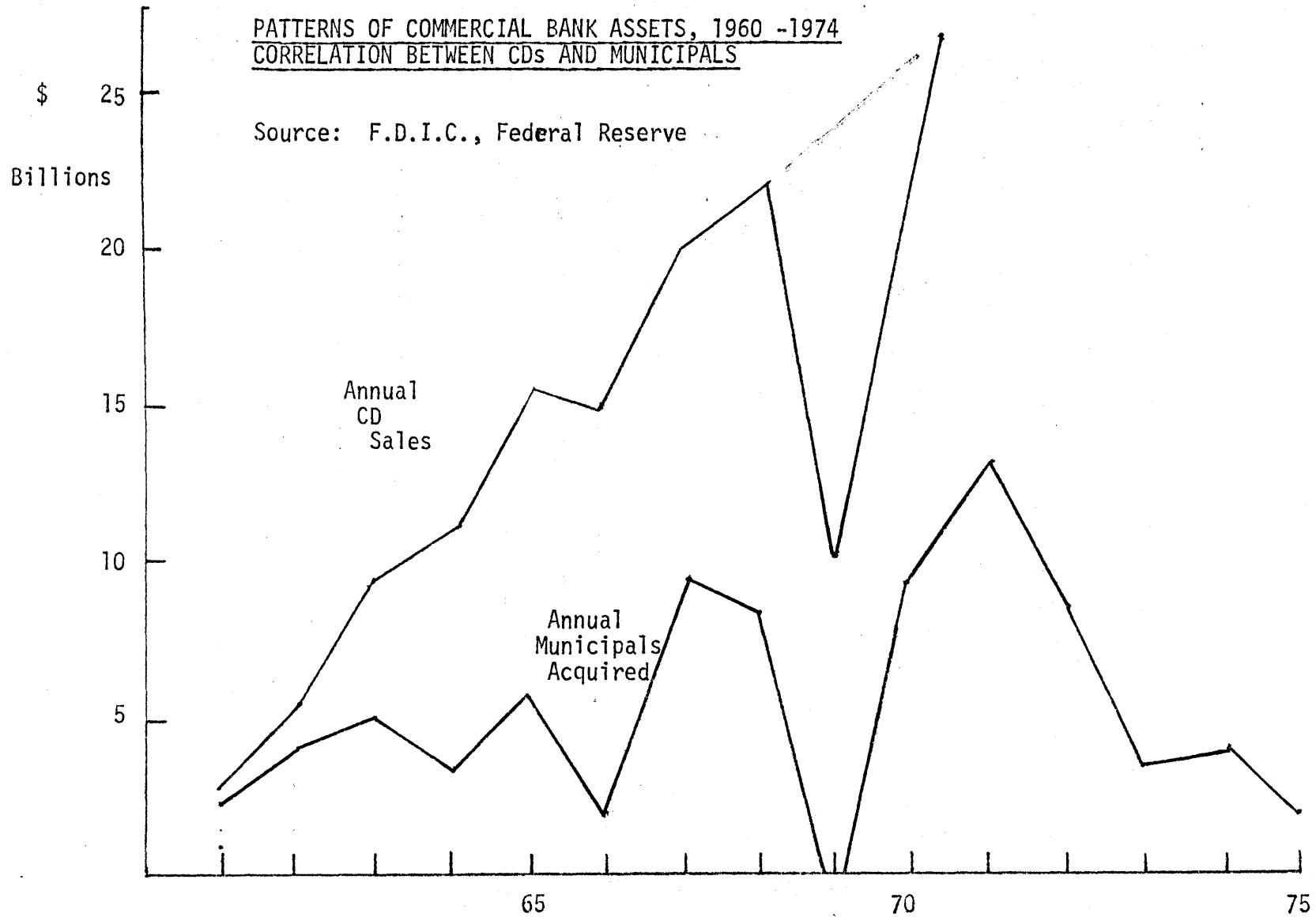
In fact, with a growing supply of CDs, higher interest costs paid by commercial banks to secure the added funds lead to changes in the composition of the investment portfolio. The higher interest costs necessary to market CDs prompted commercial banks to look for higher returns on their investment portfolio. Holdings of short term U.S. Governments were replaced with larger percentage holdings of higher yielding long term municipal bonds.

With the increases in certificates of deposits during the 1960s, another factor increasing commercial bank participation emerged. Commer-

Exhibit 7 - 9

PATTERNS OF COMMERCIAL BANK ASSETS, 1960 -1974
CORRELATION BETWEEN CDs AND MUNICIPALS

Source: F.D.I.C., Federal Reserve



cial banks were allowed to deduct the interest costs on borrowed funds to acquire tax exempt obligations. This added factor resulted in sharper increases in demand participation (see 7 - 5).

The use of CDs by commercial banks starting in 1961 lead to changes in the operating policy of the investment portfolio. The changes in municipal bond purchases attributed to CDs are therefore:

1. Increased funds for municipal bond investment.
2. Shifted the composition of the investment portfolio, out of U.S. Governments and into higher yielding municipal bonds (e.g. comparing after-tax returns).
- and 3. Deduction of interest costs of borrowing to acquire tax exempt obligations.

Thus as the amount of CDs increased in volume, a new surge of municipal bond purchases developed with commercial bank participation increasing from 23.3% in 1960 to 48% in 1970.

This market share of municipals held by commercial banks would have been much larger, if not for a number of events that occurred in the latter half of the 1960s.

Most noticeable in examining the investment patterns of commercial banks were the sharp decreases in 1966 and 1969. The reasons for these decreases in commercial bank participation center around the contractions in the money supply.

As tight money raised the need for bank liquidity, the investment portfolio of commercial banks switched towards shorter term holdings. Long term holdings in the investment portfolio were especially affected

because their value was being sharply depreciated by increases in general interest levels. Compounding this problem, a decrease in time deposit CD volume occurred. CDs which were to provide the needed liquidity to commercial banks reacted negatively to tight money conditions. As CDs matured, they could not be renewed and actually absorbed bank funds. Selling of municipal bonds was so great during the credit crunch of 1966 that the Federal Reserve warned that it would stop lending money to banks which continued to liquidate municipal bond holdings.¹

As monetary conditions relaxed in the 1970s, commercial banks reinvested in municipals. With the experience of 1966 and 1969, new purchases of tax exempts by commercial banks were in shorter term bonds and tax-exempt notes (i.e. TANS, BANS). The levels of commercial bank demands were, however, considerably reduced from the levels seen in the early 1960s.

The economic slowdown in the 1970s, the reduced profitability in the REITs, and bad loans have also decreased demand for municipals.² Failures on commercial bank loans to major corporations such as W.T. Grants and Penn Central have not only reduced profits but have caused increased caution in loan and investment operations. With the New York City situation aggravating concerns about municipal bond creditworthiness, the overall effect has been a reduction in municipal bond purchases and

1. Business Week, October 1, 1966, p. 124.

2. Commercial banks are allowed to carry forward loan losses to reduce their tax liability.

the value of municipal bond participation.

Further reducing the need for tax exempt income has been the creation of the bank holding company. The varied operations allowed under the holding companies have provided additional offsets to taxable income generated by other operations. The two principle activities to result from the new operating structure are:

Direct Leasing Operations: With accelerated depreciation on purchased equipment deductible from current income and higher loan charges on leased equipment. Such operations are extremely attractive. Since 1963 leasing operations have increased from an insignificant amount to \$790 million in 1970 and \$2.4 billion in 1974.¹

Expanded Foreign Operations: With tax credit permitted to be taken against domestic taxes and banks with foreign subsidiaries permitted to defer taxes on income until it is repatriated; foreign operations have increased tremendously. Since 1965, foreign operations have increased sixteen fold, representing more than 40% of total earnings for the ten largest banks in the U.S. Foreign operations in 1974 represented approximately 20% of total bank assets.²

Since these factors require large scale capital (e.g. direct leasing) and large scale organizations (e.g. foreign operations) only the largest commercial banks have undertaken these operations. Accordingly commercial bank demand for municipal bonds has come mostly from the smaller country banks. In fact, from 1972 - 1974, commercial bank with deposits in excess of \$500 million actually decreased their holdings

1. Brian Fabbri, Commercial Bank Investment in the Post War Period, New York, 1975, p. 31.

2. Ibid., p. 32.

of municipals while banks with deposits less than \$100 million increased holdings by \$7.2 by \$7.2 billion. This has represented almost 75% of the total increase in commercial bank municipal bond holdings during the period.¹

Fire and Casualty Insurance Companies

Ranked third in volume of municipal bond holdings, fire and casualty insurance companies (F & Cs) are the only other major institutional investor. Like commercial banks, F & Cs are subject to corporate income taxes and desire municipal bonds for tax sheltered income. Therefore, the profitability and availability of funds for tax sheltered income are the prime determinants of demand participation by F & Cs.

7 - 11 substantiates the close correlation between demand by fire and casualty insurance companies and profits, expressed as policy holder surpluses. Although participation has fluctuated, F & Cs have shown steady increases in holdings since the 1960s. These variations in demand are probably due to the highly erratic and unpredictable nature of insurance claims. Compounding this variability of claims, inflation has increased the settlement costs of policyholder claims, biting into profits. F & Cs have also claimed that stringent government regulations controlling rate increases have hurt their profitability. During the declining profit years, the demand for tax exempt shelter and

1. Ibid., JEC Report State and Local Needs and Financing.

municipal bonds slumped drastically. This is because when industry profits are declining, F & Cs will generally switch available funds into higher yielding taxable securities.

Since insurance companies buy more for return than for liquidity, fire and casualty insurance companies have invested in the highest yielding tax-exempts. This has resulted in F & Cs investing in longer term, lower rated municipal bonds (i.e. revenue obligations). The strength of their investments in supporting the lower end of the municipal bond market has been said to have observable effect upon long term interest rates.¹ Consequently, the changes in F & C participation in the market will have the greatest effect upon the higher yielding long-term market.

Households

The remaining major holder of municipal bond debt is the household sector. Of the three main demanders, the household sector is probably the most difficult to analyze. The difficulty of analysis is due to the way in which information on the household sector is compiled. Reporting individual holdings of municipal bonds are obviously not made in any direct or regular manner. Because of this, the Federal Reserve makes estimates of the net flows to all other investor groups; arrives at a net total; and allocates the remaining funds to the household sector's flow of funds. Data therefore reflects the errors attributable to

1. Ibid., p. 175.

the methods of estimation. The household or individual sector by definition is a collection of investor groups. It represents the remainder or residual after holdings from known institutions are netted out. It includes individual investors, municipal bond funds, and personal trusts.

Who Are They?

The individual investors are those wealthy individuals in the highest marginal income tax bracket who invest their monies directly into the municipal bond market. These wealthy individuals therefore, buy sizable amounts of municipals in order to shelter their income from taxes. Their participation in the market is dependent upon the stability of their wealth, the risk-aversion of the individual choosing to invest in municipal bonds, the changes in the government tax structure, and the changes in interest rates on competitive securities.

With such individual approaches to the market to establish any buying trend by type of municipal bonds is difficult. However, most probably, individuals in this sub-group of the household sector have sizeable funds with which to invest and their holdings in the market are relatively stable.

The second sub-group of investors in the household sector are the personal trusts or managed funds group. This group of investors consists of those investments which are professionally managed by a professional investment advisor or bank trust department. The degree of participation by this group although relatively stable is probably a minor percentage of

the total funds available. This is because most investment advisors believe they could obtain better yields in other investments, such as common stock. Their degree of participation would also be dependent upon the individual client's desire for a conservative, less risk-averse portfolio or for maximum yields on investments. Most probably, however, personal trust fund investments are conservatively managed. In addition to the client's, trustees or professional managers must operate (in most states) under the "prudent man rule". This rule makes investment advisors liable for investing funds negligently. Therefore, only municipal bonds of investment grade (the first four grades, Baa or better) are safe from charges of imprudence. This principle is also active in determining participation by municipal bond funds.¹

The third sub-group in the household sector is the municipal bond fund investor. First established in 1961, minimum participation for the individual in the municipal bond fund usually ranges from \$1000 - \$5,000. Therefore, this group generally consists of medium and upper-medium income tax bracket individuals with smaller levels of funds for investment. Investors are most attracted to municipal bond funds when the spread between municipal bonds and the after-tax yields of other investments are the greatest. During tight money periods, when credit is hard to come by and alternative debt security yields are driven up municipal bond fund participation decreases.

1. Ibid., JEC p. 423 -437.

Municipal bond fund growth has become the fastest growing purchaser of municipal bonds. Representing the major proportion of the household sector's increased participation, municipal bond funds bought \$2.178 billion worth of tax exempts in 1975. First half totals for 1975 and 1976 indicate the dramatic increase in municipal bond fund participation. In the first half of 1975, \$1.379 billion worth of tax exempts were bought compared to .999 billion in 1976; an increase of \$380 million.¹

This increased participation is also reflected in the number of municipal bond funds in the market. In the first half of 1976 alone, 136 municipal bond funds were active in the market, compared with 97 in all of 1975, the future of municipal bond fund participation will more than likely increase to become the market's major purchaser.²

The buying trends of the municipal bond fund is therefore, very important. The basic characteristic of bond fund purchases lie in the higher quality, long end of the tax exempt market. In 1976, an estimated 75% of all tax exempt obligations in municipal bond funds were composed of revenue obligations.³ These limited obligations are purchased because of their higher relative yields to the full faith and credit obligations of state and local governments.

An analysis of municipal bond fund purchases by investment grades reveals a strengthening of the quality of issues. In 1960, 80% of municipal bond funds were composed of investment grade issues of A or better. By the mid 1960s, 85% of the bond funds were A or better, and the first half of the 1970s reveals greater strengthening to 90% of

the issues being A or better. First half figures for 1976 show that 100% of municipal bond fund purchases were A or better.⁴

Municipal bond fund purchases have accounted for the greatest percentage of the increase in household participation. Their buying trends indicate, however, that the overwhelming majority of their purchases are in higher yielding revenue obligations; with 100% of their purchases in A or better quality issues. The implications of this analysis is to show that supplanting institutional demand, the household sector, composed primarily of municipal bond fund investors, are largely ignoring the traditional state and local government borrower. The analysis further shows that the lower quality state and local borrowers are entirely excluded from this sector's purchases. As the municipal bond funds grow in importance as the major purchaser of new issues, traditional state and local governments will have to face an even tighter demand market, resulting in higher interest costs of borrowing.

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1. Weekly Bond Buyer, "Municipal Bond Fund Statistics in 1976, First Half Total", August 2, 1976, p. 1.
 2. Ibid., p. 12.
 3. Ibid., p. 12.
 4. Ibid., p. 12.

Distribution of Household Holdings

Analyzing the distribution of municipal bond holdings by income class, exhibit 7 - 10 substantiates that the household sector's ownership of municipal bonds is concentrated among the wealthiest individuals. The higher the income tax bracket, the greater the holdings of municipal bonds. With a progressive tax structure, these higher income tax bracket individuals would benefit the most from tax-sheltered income. Increases in rates of participation jump from 7% of the 25-50 thousand dollar income class to 24% in the 50 - 100 thousand dollar income class, and 67% of the 100 thousand plus class.

As indicated in the beginning of Chapter Eight, participation in the household sector has moved inversely to institutional demanders. That is when a slack in demand by commercial banks and fire and casualty insurance companies occurs, the household sector becomes a very important source of funds in the market (such as during tight money conditions). As the importance of household sector participation increases relative to other demanders, the incentive necessary to induce individual investors into the market comes in the form of higher yields. 7 - 11 graphs the relationship between representative index of percent yields of municipal bonds ("The Bond Buyer Index of 20 Municipals") and percentage holdings of municipal bonds since 1965.

Exhibit 7- 10

DISTRIBUTION OF "INDIVIDUAL" HOLDINGS OF MUNICIPALS
BY INCOME CLASS

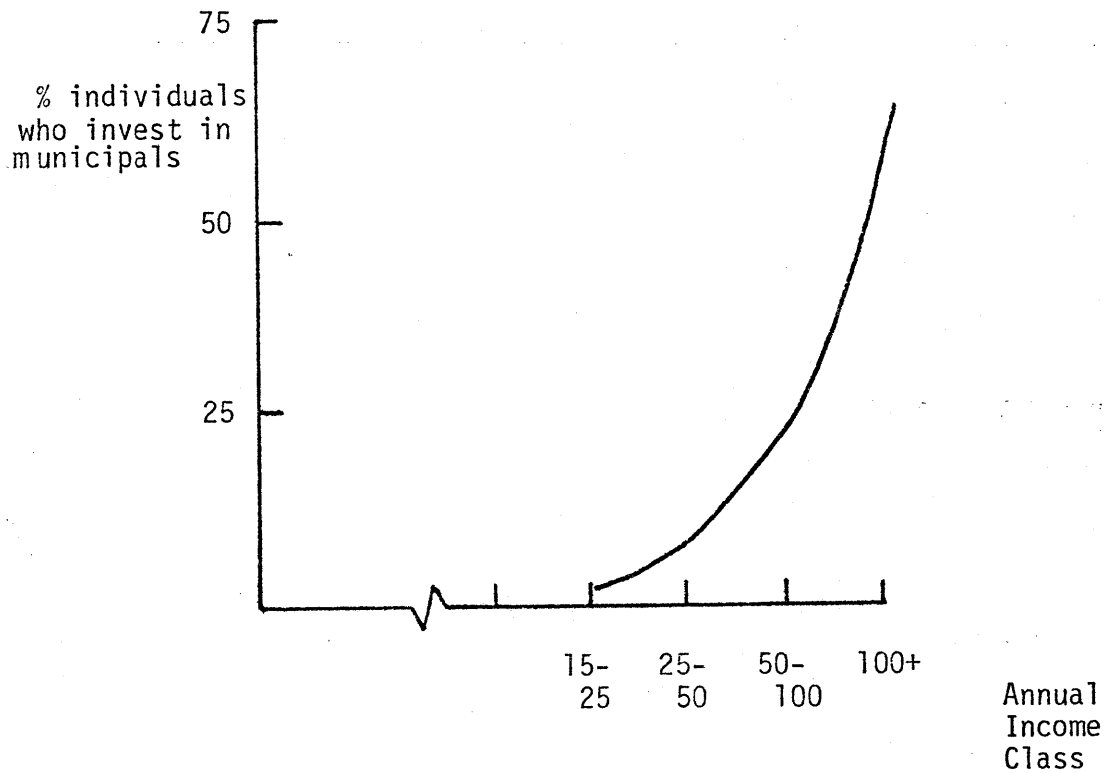
<u>Annual Income Class</u> <u>(Thous. Dollars)</u>	<u>Tax Bracket</u> <u>(percent)</u>	<u>Percent distribution</u> <u>of 1962 tax-exempt</u> <u>interest received</u> <u>by "individuals"</u>	<u>Percent of individ-</u> <u>uals in each income</u> <u>class who invest in</u> <u>municipal bonds</u>
0 to 3	15.0	4	-
3 to 5	16.7	-	-
5 to 7.5	18.0	1	-
7.5 to 10	18.0	8	1
10 to 15	21.5	11	-
15 to 25	27.4	7	2
25 to 50	33.3	15	7
50 to 100	49.7	42	24
100 and over	62.0	22	67
		100	

Source: U.S. Congress, Joint Economic Committee, Hearings on Pub. Fac. Requirements Over the Next Decade, p. 89, except last column which is from Dorothy S. Projector and Gertrude S. Weiss, Survey of Financial Characteristics of Consumers, p. 123.

R. Heufner, Taxable Alternatives to Municipal Bonds, p. 45.

Exhibit 7 - 11

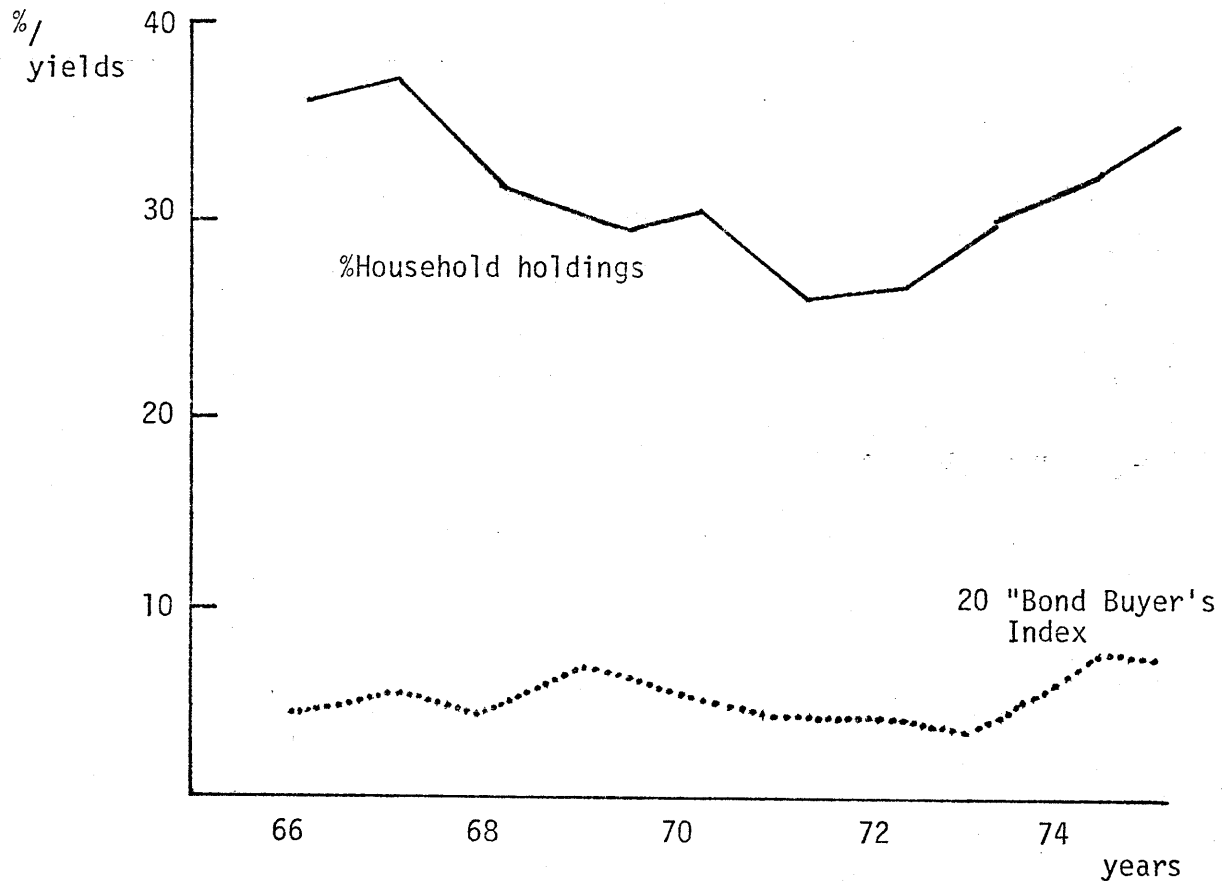
INDIVIDUAL PARTICIPATION BY INCOME CLASS



Source: Adapted from R. Heufner, Taxable Alternatives to Municipal Bonds

Exhibit 7 - 12

RELATIONSHIP BETWEEN % HOUSEHOLD HOLDINGS/"BOND BUYER" INDEX OF
TWENTY MUNICIPALS



Source: The Bond Buyer selected issues; Federal Reserve, Flow of Funds.

CHAPTER EIGHT

OVERALL EFFECTS OF THE MARKET

We have seen from the above analysis many changes occurring from both the supply and demand side of the municipal bond market. The combination of a ten-fold increase in supply and the decreased participation among certain demanders, has resulted in placement difficulties for many state and local government borrowers. Problems in marketing bonds among the large city borrower in older urban areas of the country have been most severely affected.

These older urban borrowers, particularly in the Northeast, are beset with changing patterns of economic growth in the form of declining economic bases, and the suburbanization of population and employment and increased expenditures (e.g. welfare, education, police and fire protection). The overall effect of the market imbalance and changes in the patterns of growth has been a decrease in the credit-worthiness and an increase in investor scrutiny for the older urban borrower.

Structural Imbalance

A synthesis of the supply and demand trends in the municipal bond market illustrates the reason why large city borrowers are experiencing difficulties in the market. From the supply-side, the rapid

emergence of non-conventional types of debt, such as moral obligations and limited obligation revenue bonds has increased the total volume of tax-exempt debt. A dislocation effect has resulted with a growing number of demanders buying higher yielding non-conventional debt rather than traditional debt issued by large city borrowers. To attract the demanders to their debt, traditional borrowers as a result have had to increase returns to investors in the form of increased yields and decreased prices. From the demand side, however, Chapter Eight has demonstrated that the return of investment of municipal bonds is not the primary factor determining investor participation. In fact, the three largest investors of tax-exempt debt have swung widely in their level of participation based on factors "other" than return. These include factors such as : monetary policy of the Federal Government, inflation, profitability, changes in governmental tax policy, and the introduction of new methods which investors can shelter their income.

Buying trends by the major demanders of tax-exempt debt has indicated a shift away from large city borrowings and in some cases away from tax-exempts altogether. Commercial banks, we have seen, have found other means to offset taxable income such as leasing operations, increases and carryover of loan losses, and the Eurobond market. Tax-exempts purchased by commercial banks are used in current operations to maintain liquidity in their investments and for pledging purposes on state and local government deposits. The securities which commercial banks buy therefore have shifted to short-term notes. These notes, although issued by large cities, are not without higher costs of borrowing

Fire and casualty insurance companies invest for return rather than liquidity. Their participation in the market, therefore consists of higher yielding revenue obligations -- and not the large city obligations.

Since data on the household sector of the market is the weakest, trends are hard to establish -- as individual investors take individual approaches to the market. It is this sector of the market that is responsible for absorbing the decreases in holdings by institutional investors of large city issues. Given the existing data on the household sector, the extent of this replacement of institutional demand for individual demand is not quantifiable.

What is known of the household sector, however, is that increased participation by this group has not been without increases in the cost of borrowing for the city borrower. First, individual participation is dependent on continuously changing factors such as changes in alternative investments, remaining in an income bracket where tax-exempt income is still beneficial, and changes in tax policy (i.e. progressivity of the individual investor). Second, since the size of an individual's investment in municipals is smaller than the average institutional investor, greater returns are necessary to clear the market. That is, the issuer or large city government in desiring to attract the marginal investor must pay a higher yield for the household investor to enter into the market.

The overall effect, therefore of the imbalance between supply and demand has been to increase the cost of borrowing; particularly upon the large city borrowers.

Tiering of the Market

As has been indicated above, the structural imbalance in the municipal bond market between supply and demand has affected issuers in different ways. The result of the present market structure has been a tiering or segmentation of the market based upon an issuer's ease or difficulty in selling its bonds in the market. This tiering of the market, I will classify into four groups of suppliers.

The first tier or group of suppliers would consist of mostly smaller (and usually affluent) communities whose fiscal structure is well intact. Demanders for this group of issuers usually come in the form of mutual savings banks, home town commercial banks, and other financial institutions or holders of wealth located in the issuer's jurisdiction. Demanders of the debt in this group generally assume the debt as a matter of civic duty. Hence monetary conditions, changes in inflation, and increases in yields on comparative investments have little effect on this group of borrowers.

The second major tier of borrowers in the market would include cities and larger communities whose fiscal condition has remained strong and solvent. Unlike the first group, marketing of this group's debt is generally done nationally. These include such cities as Kansas City, Houston, and Scottsdale, Arizona. The market impression or creditworthiness of these jurisdictions are considered by the market to be very good. These cities also command what is known in the market as -- a "name issuer preference". That is cities in this group are known nationally by investors as sound investments and hence the marketing

of their debt is usually completed without difficulty. These jurisdictions, as well as those in the first group are able to sell tax-exempts in the market at relatively low yields.

The third tier of borrowers consists of communities who cannot market their debt because of their newness to the market. Such communities, unknown to the investment community because of their smallness or lack of a credit rating have had difficulty in selling their debt. In recent years however, financing of these small borrowers have been assembled into aggregate issues through state bond banks such as Vermont and Maine.

The last tier of borrowers are the problem borrowers. Most notable in this group of borrowers is New York City. Other issuers in this group include: New York State Agencies, Boston, Philadelphia, Jersey City, Cleveland, Detroit, and Baltimore. These large urban cities and agencies are generally concentrated in the Northeast. Faced with older infrastructures and increasing costs, a negative name issuer preference has developed. Issuers in this group are able to market their debt only through negotiated sales or seeking funds from unsanctioned sources such as state and local government pension funds or by persuading banks and other large financial institutions into buying bonds in the interest of public spiritedness.

The funds secured, however, are not without high costs. Record yields some one to two percentage points above the median; and price discounting to 75% of par have been reported within this group of borrowers.

From Chapter Three (The History of Municipal Bond Indebtedness), we have seen, based upon historical evidence, that corrective actions and reform measures occur in the market during prolonged downturns in the market. Such was the case in 1870 and the 1930s when most of the market's present regulations developed.

Reform measures to improve the market burgeoned again during the economic downturn of the early to mid 1970s. In spite of the New York City situation in 1975 and 1976 sharpening problems for many issuers in the market, the likelihood that measures to improve the market's operations are still unclear and under much debate. Passage of various measures to improve the market's efficiency will therefore depend upon whether a downturn in the economy continues and whether shifts in the support and/or opposition overturns into one position.

In the first half of 1976, the arguments for and against measures to improve the efficiency of the municipal bond market have intensified (through the taxable bond option, broadening demand in other manners, reductions in supply, and greater, more uniform disclosure of information by issuers). The arguments between opposing groups on the various measures are complex and often confusing. This is because on each measure, various groups change their attitudes based upon changing conditions in the market.

To explain, I shall take the case of the taxable bond option (TBO). The arguments for and against TBO demonstrate this point more clearly. The TBO, proposed by Senator Edward M. Kennedy and Congressman Henry Reuss drew initial support from the U.S. Treasury, American Bankers Association,

National League of Cities, and the U.S. Conference of Mayors.¹

Opposition came from state and local organizations which were apprehensive in their support of TBO throughout the early 1970s. These organizations were hesitant because of their fears of federal government intervention and their dependence upon federal appropriations to the municipal securities market. However, by the mid 1970s, as traditional borrowers found it more difficult to borrow in the existing market, their opposition to the Taxable Bond Option softened.

In light of the changing moods among different groups and along with the N.Y.C. situation, arguments for and against passage still are unresolved. With changes in the market continuing, changes in the stance of various groups supporting and opposing reform will more than likely continue. Passage of the proposed measures to improve the market will, therefore, probable go unresolved for some time to come.

Based upon this line of reasoning, the third part of this thesis will analyze those factors that state and local government borrowers must presently be able to act upon to improve the placement of their debt and reduce the borrowing costs, especially the lower quality city borrowers.

The analysis will therefore, chose to focus on this narrower plane of proposing existing measures to improve state and local government borrowing costs, rather than proposing alternative solutions to improve the market's operation. This approach is far more useful since no significant measures to improve or reform the market have emerged in spite of the problems in the market in 1975 and the first half of 1976 and a volatile climate

of support and opposition to reform in the market.

The analysis of Part II has shown that the interface between supply and demand has resulted in a tiering of borrowers. With structural reform of the market uncertain, this analysis will in Part III focus on what state and local governments can presently do to improve their marketability and reduce their borrowing costs. Part III, therefore, seeks to provide the state and local governments issuer, especially those large urban borrowers, with "specific" key factors which they should understand (Chapter Nine; uncontrolled factors influencing municipal bond participation) as well as take action on to improve the creditworthiness and marketability of their obligations (Chapter Ten, controllable factors influencing municipal bond participation).

PART III

FACTORS INFLUENCING
MUNICIPAL BOND PARTICIPATION

CHAPTER NINE

FACTORS BEYOND THE CONTROL OF ISSUERS

The municipal bond market is influenced by many factors beyond the control of the state and local government borrowers. The principle factors determining the supply of, and demand for municipal bonds are those related to the general economic conditions of the money markets. These money markets are, in turn, shaped by a variety of factors which affect the municipal bond market. These include: the monetary policy of the Federal Reserve, the fiscal policies of the federal government, and inflation. Additionally, issuers in the municipal bond market have competing demands, not only with other governmental units (i.e. Treasury Notes and Bonds), but also with corporations seeking capital for plant expansion or increased inventories.

Monetary Policy of the Federal Reserve

The monetary policies of the Federal Reserve have a most significant effect on the cost of borrowed capital for state and local governments. As was indicated in Chapter Eight, monetary policy, through its impact on the level of interest rates, has a significant effect on the total volume of demand in the market. We shall now look beyond the macro analysis of aggregate figures to see how the money supply specifically affects the behavior of participants in the

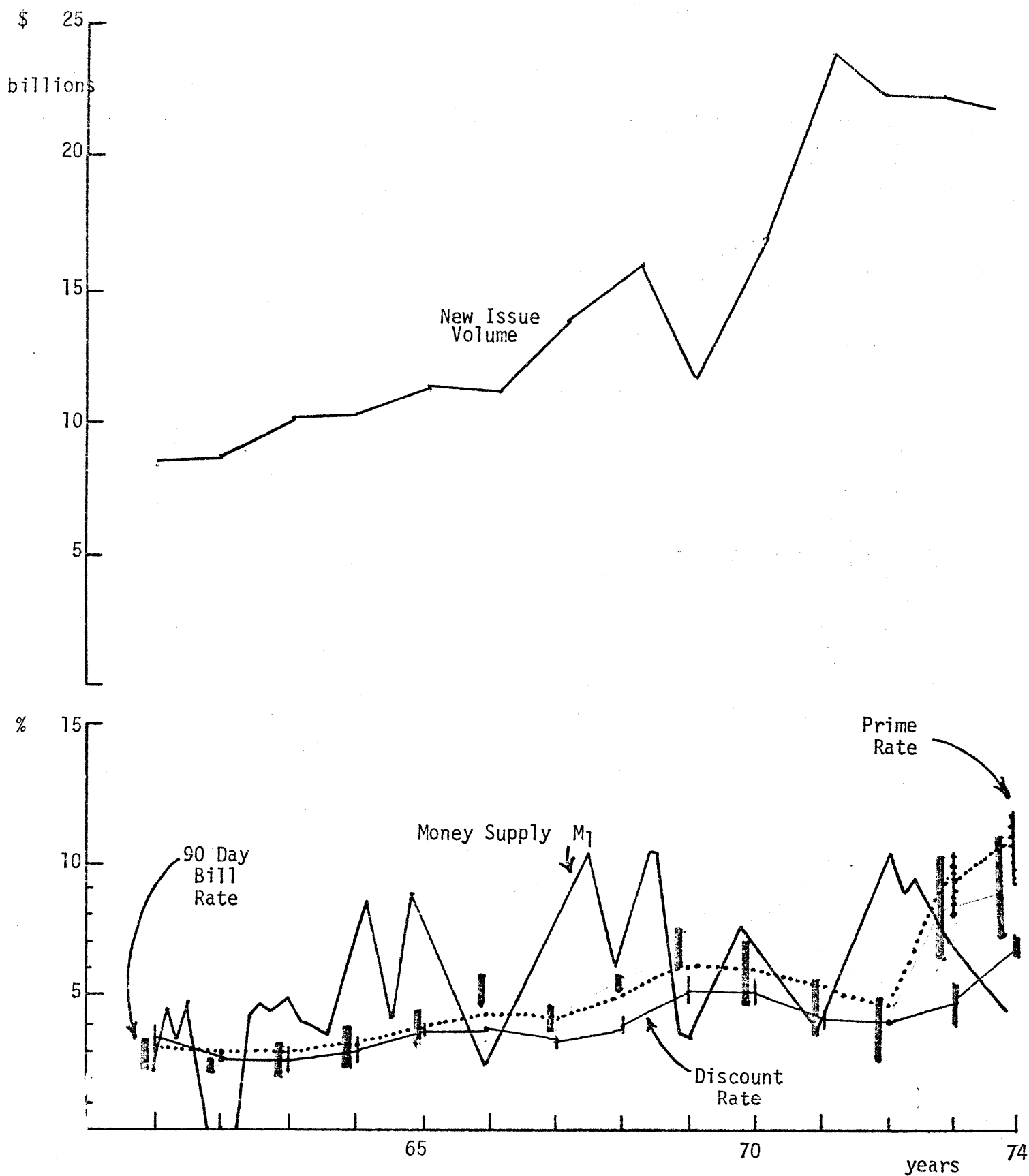
market. To illustrate the effects of money supply on demanders, the commercial bank sector provides good example. Shown in 9-1 and 9-2, as Federal Reserve Monetary Policy shifted upward from a neutral stance to active restraint during the late 1960s, participation by commercial banks, the largest holder of outstanding tax exempt debt decreased.

From the supply-side, tight money policies of the Federal Reserve forced interest rates and the cost of borrowing upward. Rather than cut back financing plans, however, state and local governments merely adjusted their construction schedules by postponing participation until monetary conditions became more favorable.

A number of studies have quantified state and local government adjustments of borrowing and spending to varying monetary conditions. It has been estimated by the Federal Reserve, that state and localities during the tight money conditions of 1966 postponed approximately \$2.3 billion in municipal bond borrowing and reduced expenditures by \$0.7 billion.¹ In the 1969 - 1970 credit crunch, high interest rates kept an estimated \$5.2 billion in municipal bond sales from the market and reduced state and local government spending by \$1.6 billion.² The inclusion of the deferred state and local

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1. Federal Reserve Bulletin, July 1968, "Monetary Restraint and Borrowing" P.F. Mc Gouldrick, J.E. Peterson.
 2. Federal Reserve Bulletin, March, 1971, "Response of State and Local Governments to Varying Credit Condition" J.E. Peterson.

RELATIONSHIP BETWEEN MONEY MARKET INDICATORS AND MUNICIPAL BOND VOLUME



Source: Federal Reserve Bulletins, New England Economic Review, Jan., 1976, Source: The Bond Buyer.

Exhibit 9 - 2

MONEY MARKET INDICATORS AND MUNICIPAL BOND ISSUANCE, 1965 - 1974

Year	90-Day Bill Rates %	Fed. Reserve Dis. Rates %	Prime Rate %	Annual Long-term Issuance	Federal Reserve Credit Policy
1964	3 1/2-3 7/8	3 1/2-4	4 1/2	\$11.1 billion	Neutrality to mild restraint
1965	3 3/4-4 3/8	4 -4 1/2	4 1/2-5	11.1	Mild restraint to active restraint
1966	4 1/2-5 3/8	4 1/2	5 -6	14.3	Active restraint to restraint
1967	3 1/2-5	4 -4 1/2	5 1/2-6	16.3	Aggressive ease to mild restraint
1968	5 -5 1/8	4 1/2-5 1/2	6 -6 1/2	11.5	Restraint to ease to firm restraint
1969	5.88 - 8.10	5 1/2-6	6 3/4-8 1/2	17.8	Active restraint
1970	4.75 - 7.96	5 1/2-6	6 3/4-8 1/2	24.4	Less restraint to moderate ease
1971	3.24 - 5.52	4 1/2-5 1/2	5 1/4-6 3/4	22.9	Moderate to aggressive ease
1972	2.98 - 5.18	4 1/2	4 3/4-6	23	Moderately stimulative
1973	5.16 - 9.02	4 1/2-7 1/2	5 - 10	22.8	Active to moderate restraint
1974	6.10 - 9.74	7 1/2-8	8 3/4-12	24.4	Active restraint to moderate ease

Source: Federal Reserve Bulletins, The Bond Buyer

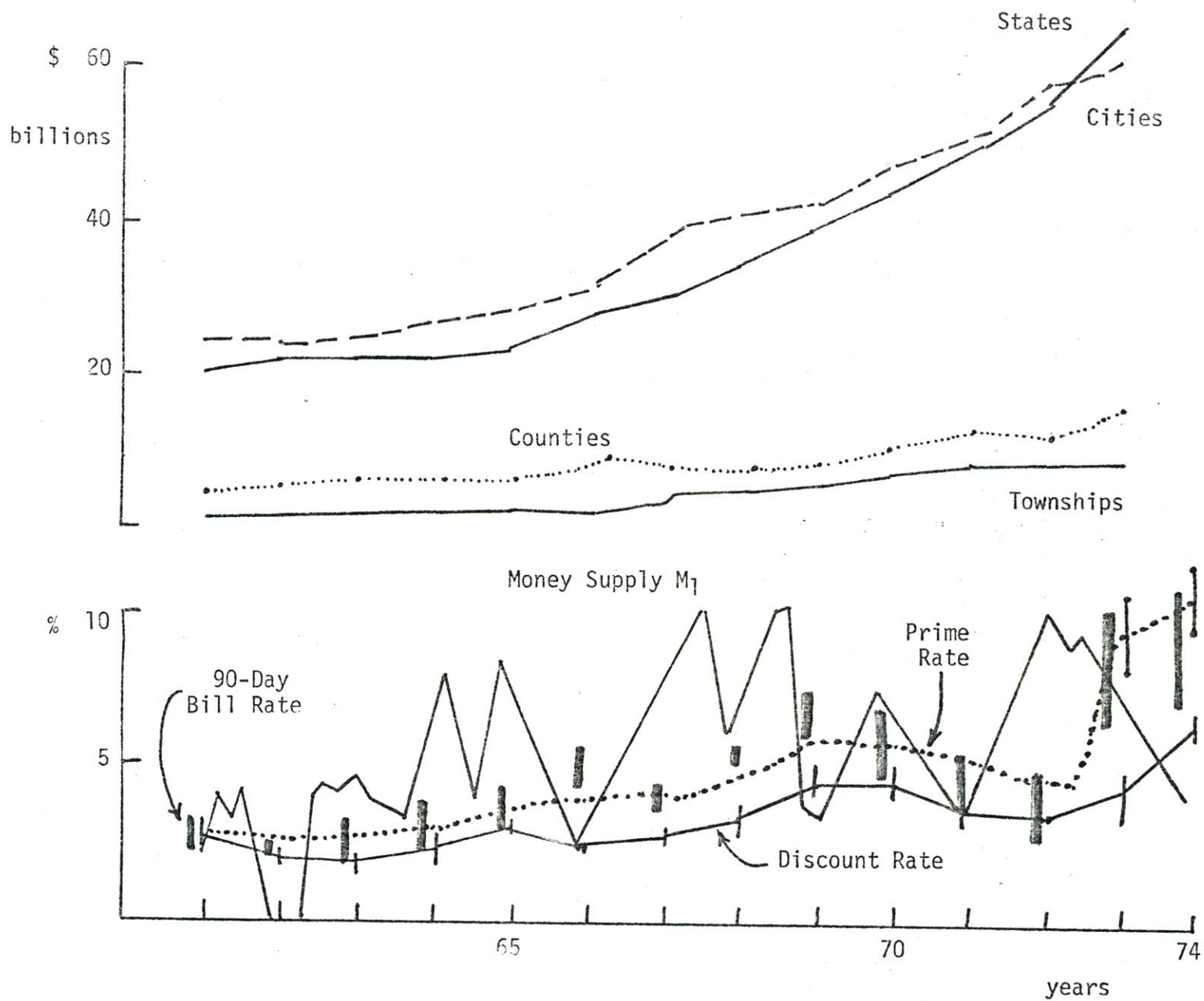
debt would have increased total municipal bond spending by 20.1% and 29.% in 1966 and 1970, respectively. These studies also showed that legal interest rate ceilings were either raised or removed altogether in order to clear the path for higher levels of debt-financing.

The effects of monetary policy seemed to affect state and local government borrowing more strongly than spending. In fact, studies have found that borrowing and spending by state and local governments varies directly with the size of the issuer.¹ As 9-3 indicates, smaller units of government display the greatest propensity to postpone borrowing in the market. On the other hand, larger units of government display a lesser degree of elasticity to changes in monetary conditions. The reasons for this divergence in borrowing trends is the nature of small versus large borrower needs and fiscal positions. Smaller governments, usually in a stronger fiscal stance than larger governments, ran down liquid assets during tight money periods to meet fiscal needs. The inability of larger units of government to restrain from borrowing is due to their weaker fiscal positions and a primacy of purpose to which the debt is applied. This later point is reasoned in the fact that larger governments seemingly finance necessary expenditures such as: sewage treatment, utility, and public housing financing.

1. Federal Reserve Bulletin, December, 1971, "Planned and Actual Long Term Borrowing by State and Local Governments" P. Schneiderman.

Exhibit 9 - 3

EFFECT OF MONETARY CONDITIONS ON ANNUAL MUNICIPAL BOND BORROWING
BY SIZE OF ISSUER, 1960 - 1975



Source: Federal Reserve Bulletins; Bureau of Census, "Governmental Finances".

Subsequent to the tight money conditions of the late 1960s, state and local governments made-up for their repressed borrowing needs by issuing record new issue volumes in 1971 and 1972. During this period, g-2 indicates Federal Reserve Credit Policy moved downward from "restraint" to "moderate ease" to "aggressive ease". The long term volume entering the market increased to \$24.4 billion in 1971 and \$22.9 billion in 1972. This represented a 37.2%, in 1971, and a 29.2%, in 1972, increase from the 1970 level of long term bond borrowing.

The high levels of interest rates and a demand preference for short term issues (particularly by commercial banks desiring increased liquidity) lead state and local governments to increasingly use these issues (see 7-10). With long term borrowing levelling off at \$23 to \$24 billion annually from 1972 to 1975, short term borrowing has continued to climb at a rate approximating 11.8% annually from 1970 to 1975.

The market is therefore seen to be sensitive to federal government monetary policy through interest rate levels. The credit crunch of 1966 and 1969 -1970 only postponed short-run borrowing (by approximately 20% of planned levels). This deferral of long term borrowings did not result in equivalent reductions in spending. Monetary conditions therefore affect state and local government borrowing more so than spending.

Fiscal Policies of the Federal Government

Federal Government fiscal policies can be viewed as non-controllable factors influencing participation in the municipal bond market. Fiscal policies work through a host of specific revenue and tax measures to influence the overall level and composition of the market.

Federal Tax Policy

Federal Tax Policy as uncontrolled by state and local governments have the most powerful effect on participation in the municipal bond market. From the demand side, as federal tax policies became more progressive, higher levels of taxation made tax-exempt securities more attractive. This has been cited as a factor contributing to the increased participation by individual households. Negative effects of Federal Tax Policy, for instance, changed the demand of life insurance companies for municipal bonds from 9 % of the market to virtually nothing from 1955 to 1975.

From the supply-side, repeal of Federal Tax Policy on Industrial Development Bonds in 1969 caused supply to drop from \$1.5 billion or 9.6% of the new issue market to less than \$24 million, or an insignificant 0.2% in the following year.

Federal Aid Policy

Not so obvious as the effects of the federal government's tax policy is the impact of federal aid on supply and demand in the market.

We shall view the level of government funds going to state and local governments as "beyond" the direct control of these governments, since appropriations by the federal government to state and localities is dependent upon Congressional authorization.

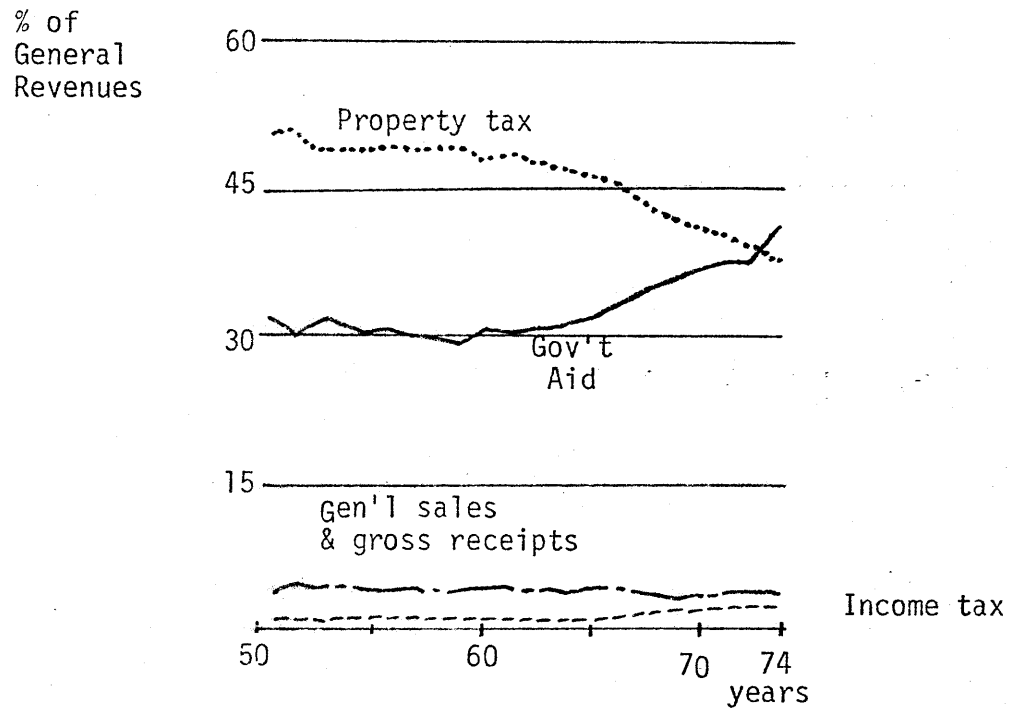
From the supply side, the amount of federal aid and the degree to which state and local governments depend upon this aid directly affects the volume of state and government debt. To explain, in looking at trends of government fiscal policy, state and local governments over the years have come to rely more heavily upon federal aid as shown in 9 - 4 and 9 - 5.

In looking specifically at the revenue structure of the "local" governments, the chief means of collecting revenues has been the property tax. The revenue structure of local governments were stable because as the principle sources of funds, property taxes were comparatively immune to changes in the economy. The local government issuer scheduled its debt quite accurately because revenues were based on property tax stability. Local government property taxation represented a counteracting trend to fluctuations in monetary policy.

During the 1960s, a shift in the composition of the revenues from property taxes to intergovernmental aid made local governments more dependent upon outside sources. Property tax revenues in the 1960s dropped from an average of 48% of general revenues in the 1950s to below 40% in 1970. Supplanting this downward shift in property tax composition, intergovernmental aid increased from 31% in 1960 to 38% of general revenues by 1970.

Exhibit 9 - 4

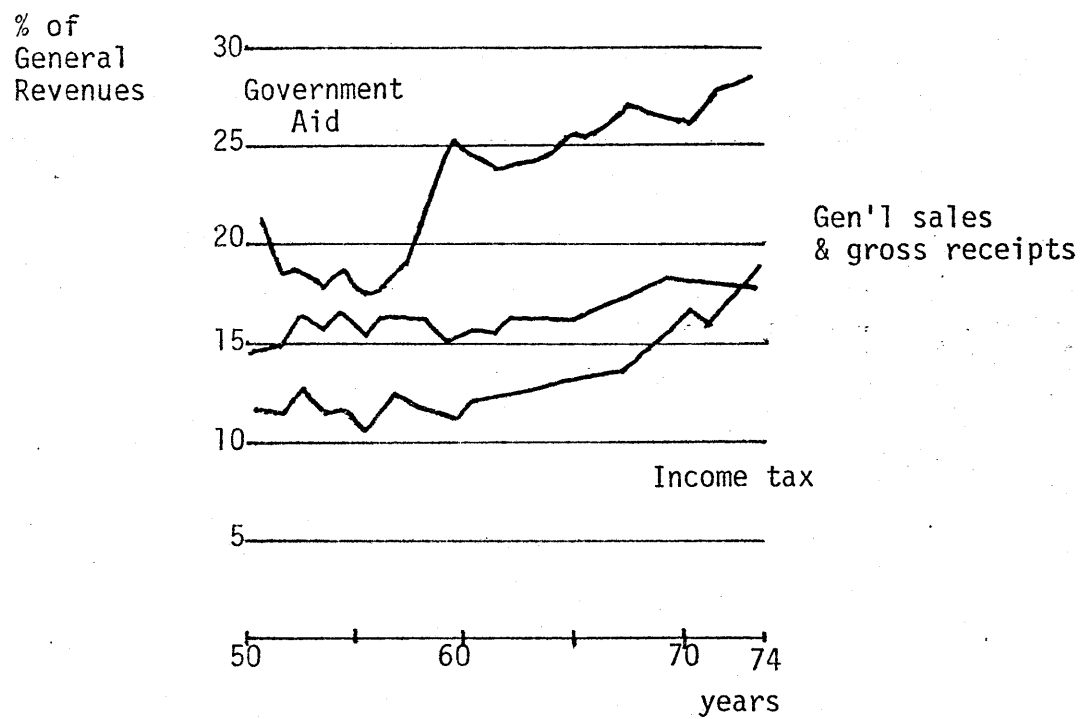
LOCAL SOURCES OF GOVERNMENT REVENUES, 1950 - 1974



Source: First National City Bank, Monthly Economic Letter, August, 1975
p. 7

Exhibit 9 - 5

STATE REVENUE SOURCES, 1950 - 1974



Source: First National City Bank, Monthly Economic Letter, August, 1975, p. 7.

In the 1970s, this dependence accelerated sharply with the enactment of the "State and Local Government Assistance Act of 1972" creating the General Revenue Sharing Program. In 1973, due mostly to general revenue sharing, intergovernmental aid surpassed property taxation as the largest source of general funds for local governments.

Studies on revenue sharing indicate that during Fiscal Year 1974, counties and municipalities used over \$300 million as a general substitute for borrowing.¹ In addition, these same units used revenue sharing funds totaling \$1.5 billion, out of some \$4. billion allocated to them by the federal government, for expansion and maintenance of capital facilities.² Thus almost \$2 billion worth of local projects that would have probably been financed by the sale of tax exempt bonds were instead funded with revenue sharing monies. In several instances, these studies have found general revenue sharing funds used in lieu of bond issues previously rejected by voters in referendums for capital projects.³

In looking at the revenue structure of state governments, the major portion of their reliance has been upon the combination of sales and income taxes. Although their relative importance has not changed over the years, an expansion in the percent composition of federal funds has occurred as illustrated in 9 - 5. Government aid increased from 18% of revenues in 1955 to over 25% in 1965. With the latest figures available, 1974 has seen an increase of another 4% to almost 29% of general revenues.

For state governments, the use of revenue sharing for the avoidance of borrowing plays a less important role in state finances than for local governments. Studies indicate that only an average of 4% of total general revenue sharing funds allocated to the states in Fiscal Year 1975 were earmarked for stabilization of reduction of borrowing.⁴ This 4% use figure, however, does not take into consideration the wide variations within the country. Broken down by region, revenue sharing funds to states stabilized or reduced borrowing in FY 75: 10% in the North Central states; 3% in the Southern states; 1% in the North East; and no monies allocated for these purpose in the West.

In looking more closely at the federal, state, and local government aid policy the coercive nature of federal grant programs emerges. Except for the revenue sharing programs, federal aid for capital improvements are matching or reimbursement grants. Federal policy seeks to assure that state and local governments will expand their expenditures into these programs, maximizing federal goals. The net effect is that state and local governments are compelled to undertake federal matching grant programs usually in disregard for need or expansion of

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1. M. Crawmer, Localities Use Revenue Sharing as Alternative to Bonds, Weekly Bond Buyer, Vol. 202, 4319, January 26, 1976, p. 14.
 2. Ibid #
 3. Ibid #
 4. Ibid #

Inflation

The rate of inflation is another uncontrollable factor influencing participation in the market. As seen in Chapter Seven, the supply accelerated most rapidly in the later half of the 1960s, especially since 1968. A significant portion of this increase in municipal bond debt is attributed to the rate of inflation. 9 -6 shows how inflation has impacted upon construction costs. A two-folded effect on the supply side is noted. First, the increased costs of constructing capital facilities has raised the average dollar value of a bond issue from \$1.8 million in 1965 to \$5.32 million in 1974 (see 9 -7). This represents an annual increase of 11.2% per year. Second, to the extent that inflation impacts upon expenditures more rapidly than on revenues, it increases the costs of providing government services. This reduces the availability of funds from current receipts to help finance capital facility expenditures, thus increasing the dollar value of the average issue.

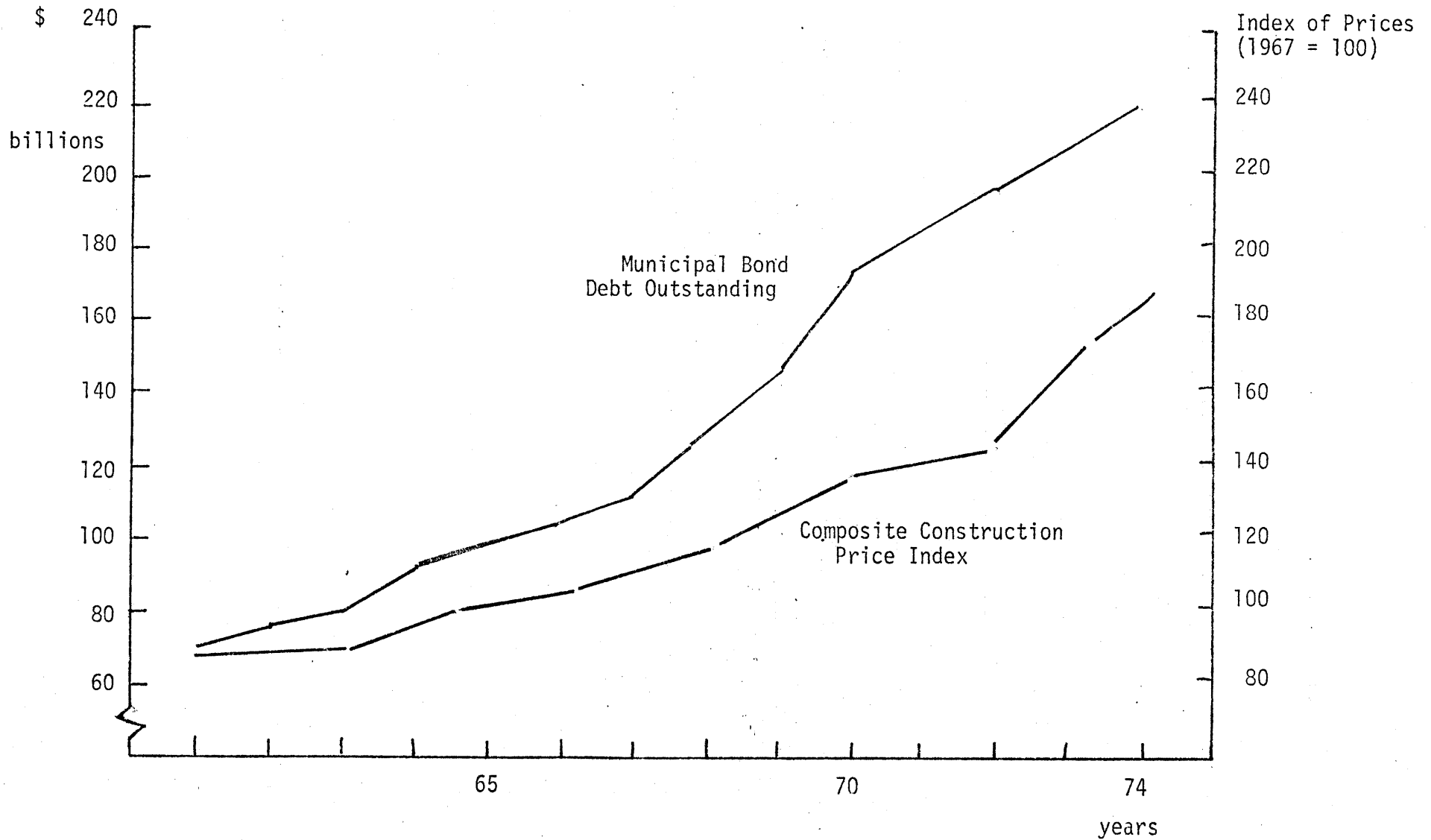
The effects of inflation upon the demand side are confined to indirect effects in the market. Basically, the effects have been negative. They include:

- increases in uncertainty in the economy reflected in higher costs of securing funds for investment.

- increased use of depreciation techniques in reducing the tax liability of an institutional investor and hence the need for tax exempt shelter.

- decreased net savings in the economy resulting in lesser amounts of investible capital by demanders.

RELATIONSHIP BETWEEN INFLATION AND TOTAL SUPPLY OF MUNICIPAL BONDS, 1960 - 1974



Source: U.S. Dept. of Commerce, Survey of Current Business; Federal Reserve System, Flow of Funds.

Exhibit 9 - 7

MEAN DOLLAR VALUE OF LONG TERM MUNICIPAL BOND ISSUE, 1965 - 1974

Year	Average long term issue	Percent increase
1965	\$1.83 million	6.9
1966	1.98	8.2
1967	2.45	23.7
1968	2.86	4.5
1969	2.83	-1.0
1970	3.78	33.6
1971	4.46	18.0
1972	4.45	- .1
1973	4.84	7.6
1974	5.32	9.9

Source: The Bond Buyer

costs in state and local government budgets. Such unbalancing pressures on the revenue/expenditure streams of state and local budgets have a negative effect on the cost of borrowing and hence issuer participation in the market (Chapter Ten will discuss budget effects in detail).

Federal government aid to state and local government has also indirectly affected demand in the municipal bond market. A report by the National Clearinghouse on Revenue Sharing found that the bond rating agencies evaluating an issuer gives significant weight to communities which have utilized general revenue sharing funds in stabilizing their tax rates.¹ Investor preferences for issues given higher ratings attributed to government aid (in strengthening an issuer's tax base) is therefore an indirect affect of fiscal aid policy on demand.

Government fiscal policy in the form of federal tax and government aid policies have had a most significant effect upon supply and demand participation in the market. Tax policies of the federal government through increases in the progressivity of federal taxation and the impacts of changes in federal laws for investors effects supply and demand participation very sharply. Government aid policies to state and local governments have impacted supply and demand by an avoidance of borrowing by issuers and through strengthening the tax base and creditworthiness of state and local government debt. Dependence by state and local governments upon fiscal aid combined with changing levels of revenue aid support will have negative effects on creditworthiness and hence cost of borrowing in the municipal bond market.

1. National Science Foundation, December, 1975, Actual Use Reports - found in Weekly Bond Buyer, January 26, 1976, Crammer Article, p. 14.

Overall Impacts of Federal Actions and Inflation

State and local government borrowing is considerably disadvantaged compared with that of the Federal Government and private business. Unlike the Federal Government, which controls monetary and fiscal policy, state and local governments cannot create their own money, and unlike private business, the public units cannot discontinue activities whose costs become unattractive.

In the 1950s when two of every three dollars of governmental revenues went to the state and local units, and Federal tax rates were relatively lower, the impact of Federal fiscal and monetary policy on state and local finances was much less pronounced. In the 1970s the Federal "take" dominates governmental revenues and the progressive structure of Federal income taxes together with the high rate of inflation insure that the Federal Government receives a progressively larger share of every incremental dollar of private taxable income. These results severely limit the effective use of income taxes by state and local governments. In consequence, the state and local government pay the higher costs resulting from Federal fiscal and monetary policy, but are unable to realize the automatic revenue increments which ease the lot of the Federal Government's debt.

Inflation and Federal fiscal and monetary policy therefore impacts as an uncontrolled unbalancing factor on state and local governments' revenue/expenditure stream. The result is a decrease in creditworthiness and an increase in the cost of borrowing for state and localities.

Competing Demands

The fourth major factor beyond the control of state and local government issuers is the impact of competing demands for capital by alternative investments. These are: U.S. Governments, including federal governments, its agencies and trust funds; corporate debt; and individual and non-corporate debt.

The closest investment alternative to municipal bonds is the corporate bond. With the exception of federal tax exemption, corporate bonds have the same investment features of municipal bonds. An analysis of long term corporate debt outstanding shows an increase from \$139.1 billion in 1960 to \$491.9 billion in 1973, or an increase of 354%.¹ U.S. Government securities increased in the same period from \$250 billion to \$408 billion or an increase of 168%. The third group of competing demand are the individual and non-corporate debts. This group, during the period 1960 - 1973 increased from \$263.3 billion to \$821.3 billion or 312% (see 9-8).

With such increased in the volume of debt-issuance in the capital markets, the net effect has been to increase the interest yields for all investments, but particularly with the tax exempt market. As derived from "The Bond Buyer", after-tax yield trends for all investments are charted against municipals. What is apparent is the overall

1. Municipal bond debt outstanding increased from 1960 to 1973 from \$64.9 billion to \$184.5 billion or an increase of 284%.

Exhibit 9 - 8

ALTERNATIVE DEBT VOLUMES OUTSTANDING, 1960 - 1973 * (in billions)

Years	Federal ¹ Debt	Annual % increase	Corporate Debt	Annual % increase	Individual ² and Non-Corporate
1973	\$408.9	6.9	491.9	9.5	823.3
1972	382.6	4.6	449.2	12.3	734.3
1971	365.8	7.6	400.0	12.	648.1
1970	339.9	6.3	360.2	14.	586.3
1969	319.9	2.0	323.5	11.	549.6
1968	313.9	6.0	283.6	10.5	503.9
1967	295.5	5.5	255.6	10.5	476.2
1966	283.0	2.8	231.3	8.8	443.9
1965	275.3	1.4	209.4	10.1	415.7
1964	271.5	2.6	192.5	13.6	380.2
1963	264.7	2.2	174.8	8.0	345.8
1962	258.9	3.3	161.2	7.3	311.9
1961	250.7	3.0	149.3	7.2	284.8
1960	243.3	—	139.1	—	263.3
		μ 4.17		μ 9. %	

*Source Federal Reserve System, Flow of Funds, Bulletins; U.S. Dept of Commerce, The Bond Buyer.

1. Includes U.S. Governments, Agency Debt, and Trust Funds
2. Includes Individual Farm and Non-farm Mortgages; and Farm and Non-farm Non-mortgage debts.

increase in yields paid in the bond market (see 9 - 9).

To determine whether any significant relationships between corporate debt and municipal debt exists, aside from the general debt market trends, a ratio between yields on municipal bonds (Y_m) to corporate bonds (Y_c) were taken. Expressed as, Y_m / Y_c , this ratio is a widely used measure of conditions in the municipal bond market, relative to other corporate markets, and specifically to the corporate bond market. High Y_m / Y_c ratios indicate tight credit conditions for the municipal bond market, while lower levels of Y_m / Y_c indicate easier credit conditions. Charted in 9 - 10, Y_m / Y_c ratios on like-rated Aa bonds from 1960 to 1975 are shown. No visible short-term relationships are apparent from exhibit 10 - 10.

The conclusion drawn from 9 - 9 and 9 - 10, is that although general interest rates in the market are increasing, state and local governments pay higher after-tax yield for their borrowings. These exhibits corroborate that:

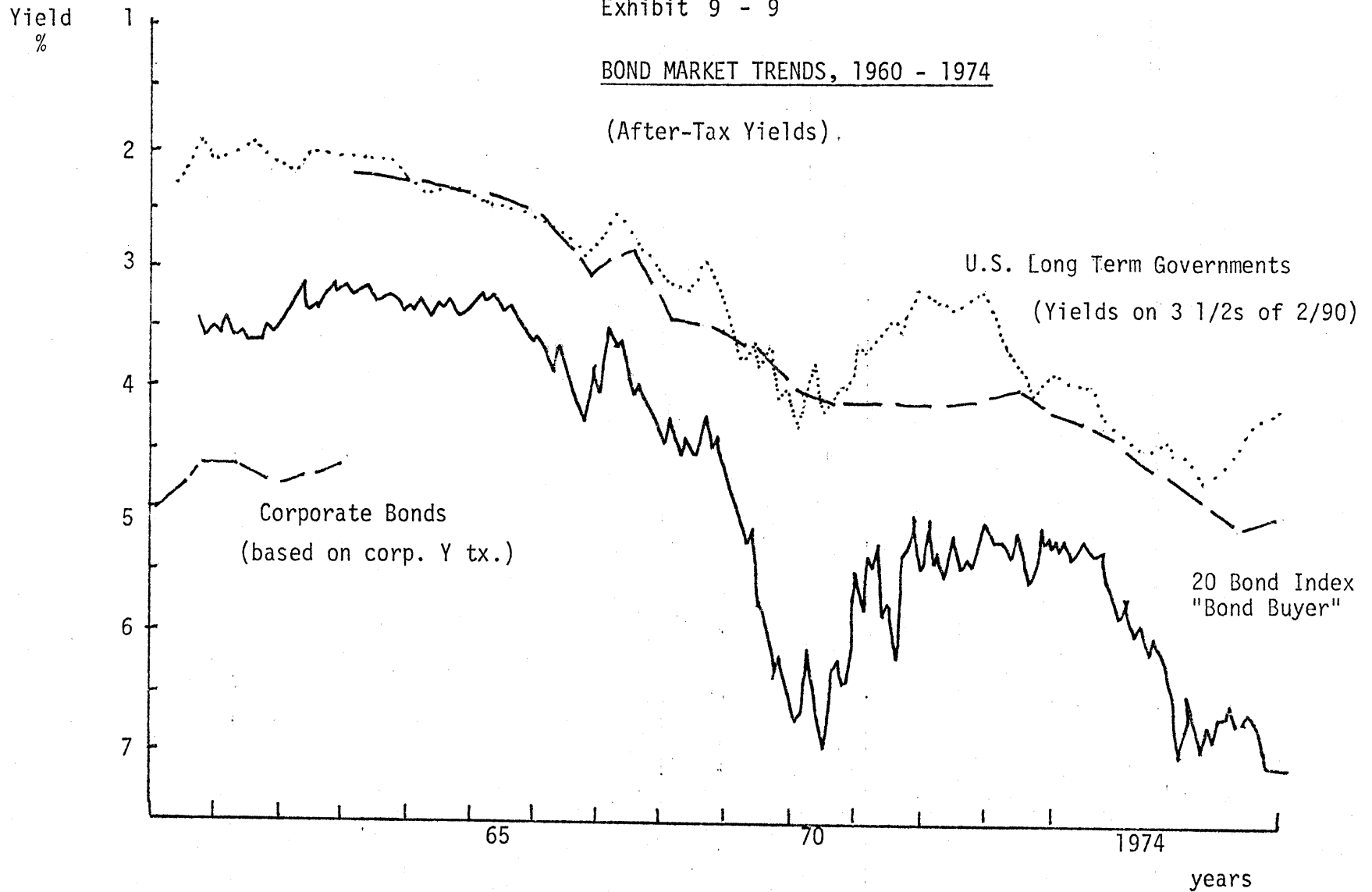
1. Movements in the municipal bond market are quite volatile.
- and 2. Municipals are more sharply affected by tight credit than alternative corporates (as shown in 1966, 1969, and 1973).

A good explanation of interest rate conditions in the debt market is given in the New England Economic Review, May/June 1975, "Determination of Long Term Interest Rates: Why Were Bond Yields So High." Benjamin Friedman.

Exhibit 9 - 9

BOND MARKET TRENDS, 1960 - 1974

(After-Tax Yields).



Source: The Bond Buyer Annual, p. 33.

Exhibit 9 - 10

RATIO OF YIELDS OF MUNICIPALS TO CORPORATE, 1960 - 1975 *



1. Ratio computed on Aa Bonds.

* Source U.S. Treasury Dept. Treasury Bulletin; Salomon Brothers, Analytical Record of Yields and Yield Spreads.

CHAPTER TEN

FACTORS WITHIN CONTROL OF THE ISSUER

As we have seen in Chapter Ten, participation in the municipal bond market is, in part, influenced by factors beyond the control of state and local government borrowers. The major factors include: money market conditions, inflation, and competing demands for capital. Within these given conditions, however, the borrowing government can do much to affect the costs of participation in the market. The following is an analysis of these factors, and to what extent issuers in the market can influence municipal bond participation.

In evaluating the controllable factors influencing municipal bond participation, the analysis can be logically broken up into two parts. The first part concerns those "controllable" factors relating to the soundness or creditworthiness of the issuer and its resultant effects on the costs of borrowing for state and local governments. These factors I have termed as 'internally' controlled factors influencing municipal bond participation. Internal factors are predetermined qualities of a general government and will accordingly deal with sound budgetary and debt management practices. Factors described here are internal in the sense that budget and debt management practices reflect the inherent soundness of a given issuer and therefore the marketability of the debt.

The second part concerns those factors relating to the marketing of an issuing government's obligations. These can be conversely viewed as 'externally' determined factors influencing municipal bond participation or those factors which are not pre-determined before entering the market.

Another way to view this distinction of factors is in the following manner. Market participation is controlled by an issuer internally, through sound management practice, and externally, through superior marketing. Good merchandising techniques can do much to compensate for weaknesses in an issuer's fiscal and budgetary structure. But the advantages of a strong fiscal structure can be quickly dissipated by inadequate or poorly planned execution and placement of an issuer's obligations in the market. A general government's program to reduce the costs of borrowing in the market must therefore include both components to be most efficient.

A Digression:

Specific Factors Relating to Special Fund Obligations

Although much of the analysis in this chapter is applicable to special fund obligations (e.g. limited obligations and revenue bonds) the analysis will focus principally upon general fund obligations. The basis for handling the analysis in this manner is because, in most instances, the special fund establishing an agency or public service enterprise is more or less dependent upon the general fund as represented by a general government.¹

The general government's financial soundness, therefore, is a principle factor determining participation for this set of obligations in the market. Additionally, in creating special fund obligations, the special fund usually stands completely on its own because it receives earmarked revenues from a special or limited tax.²

Specific factors related to the cost of borrowing on special fund obligations are, the additional costs of borrowing resulting from an increased supply of tax exempts, and the additional general government funds used to support the special fund obligations. The use of

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1. It should be remembered from Chapter Five that special fund obligations were created by general governments as a means to circumvent constitutional and statutory restrictions limiting debt issuance under a jurisdiction's full taxing powers.
 2. The exception being moral obligations which are not self-sustaining; these obligations, however, have been essentially shut out of the market beginning in 1976.

special fund obligations can be justified in that they are an alternative to general obligation financing. In this manner, the issuance of special fund obligations conserves the general government's tax base for future issues of GOs.

Since there is a higher relative cost attached to special fund obligations, the use of general government revenues for special fund obligations should be minimized; with debt-servicing to be paid primarily by fees imposed upon the user. Additionally, special fund use should also be limited to only providing special services in a specific area. Special funds should therefore be used in financing special projects within a "limited" portion of a jurisdiction. Examples of limited financing include; local water and sewer facility projects or regional metropolitan area transit systems.

Internally Controlled Factors
Influencing Municipal Bond Participation

Internal factors influencing the costs of borrowing are factors relating to the soundness or creditworthiness of a general government. Financial and debt management practices of the issuer are therefore the most important factors in determining the costs of borrowing.

In a study in 1973 entitled, City Financial Emergencies, a task force by the Advisory Commission on Intergovernmental Relations investigated the financial problems of thirty large cities in the U.S. The report concluded that sound fiscal management by municipal borrowers is the critical element determining debt difficulties:¹

"Unsound financial management stands as one of the most important potential causes of financial emergencies in municipal governments improvements in financial techniques such as accounting, auditing, and reporting will strengthen the ability of local governments to repay their debt."

Sound Financial Management

The Effect of Cash Stringency on the Cost of Borrowing

Sound financial management is seen primarily through the evaluation of revenues and expenditures of an issuer. General governments by adopting prudent budgetary and debt management practices reduce the risk of default and ultimately the cost of issuing debt in the market.

The importance of sound financial management can be seen in the following manner. A general government's cost of borrowing is a function of the risk of having insufficient funds to pay debt-service on borrowed capital. There are two basic causes of insufficient funds (identified in the analyst's jargon as cash stringency of a general government).

The first cash stringency problem results from revenue-failure, or receiving less revenues than anticipated. Revenue failure can be due to:

- a. recession; resulting in a loss of revenues from a very large taxpayer, or declines in anticipated revenues from sales or income taxes.
- b. natural disaster such as a fire, resulting in a loss of a very large taxpayer's revenues.
- c. litigation in the courts, deferring or invalidating revenue collections.

The second cause of cash stringency results from spending more than what was planned, or over-expenditures. Investors in the market, closely evaluate a general government's expenditure policy and the degree to which they undertake additional expenses. Over-expenditures typically occur in certain expense categories of a general government. Included are categories such as: education, police and fire protection, and welfare. Representing the largest expenditures in a general government's

1. Advisory Commission on Intergovernmental Relations, City Financial Emergencies: the Intergovernmental Dimension, July, 1973, p.3 -8.

budget, steadily increasing "labor" demands have pushed personnel costs beyond anticipated levels. The last category, welfare, is most prevalent in larger urban areas, and is a variable function of economic conditions in a region and the country. Over-expenditures in these three areas have been the most unstablizing element in a general government's budget.

Should cash stringency occur, with debt payment in jeopardy, three basic remedies to correct for the problem exists. General governments can:

- a. default on the debt.
 - b. refinance the debt.
- or
- c. balance the budget for payment of debt by cutting back expenditures and/or increase revenues.

Defaulting on the debt of a general government is the most drastic solution to cash stringency problems. The ultimate consequence of such a move would mean a locking out of the general government from participating in the market for years to come. Default action should only be taken after every measure has been exhausted and there exists no reasonable hopes of meeting debt-service payments.

The only two practical responses to a cash stringency problem, is to refinance the debt, or to secure additional funds from the jurisdiction.

Refinancing or refunding of debt is usually accomplished through short term notes. Further borrowing in the market should only be required if budget balancing is not possible to meet debt service. For refunding of debt to be succussful, the budget year following the

cash stringency period must be balanced with an excess in revenues over expenditures to liquidate the deficit as well as the capital borrowed (plus interest). If the following budget year's budget is not in-balance, continuation of the problem in the second year will only result in the accumulation of additional short term debt, an exacerbated cash stringency problem, and a possible temporary lock-out of the issuer from the market, as was the case of New York City in late 1975.

Balancing the budget in payment of debt is therefore the best action to take in meeting a cash stringency problem. Counteracting measures by increasing revenues as fast as expenditures, or cutting back expenditures commensurate with decreases in revenues is the most acceptable remedy for general governments to follow. Retirement of debt-service through budget balancing contains the problem in the year of occurrence, while refunding only extends the problem into the following year; carrying the additional interest cost on borrowed capital.

While there are no iron-clad rules governing a general government's action during periods of cash stringency, sound financial management, through balancing the budget when a revenue/expenditure imbalance develops, rather than financing in the short term market, should be the best alternative to follow.

Employee Pension Funds

General governments, being so labor intensive in nature, have been hard hit by spiralling inflation and increases in labor costs. To contain increases in current expenditures for labor, some general governments have met labor demands by enriching employee benefits and retirement plans instead of increasing current salaries. Contrary to prudent financial management practices, this is a deliberate deferral of a general government's costs to future periods. Largely ignored until the New York City situation, in 1975, an alarming increase in these hidden costs over funded debt has developed. Technically called the "unfunded pension liabilities", increasing investor concern over this issue will impact negatively upon general governments which either, have adopted such practices, or fail to disclose the condition of their employee pension fund. Adequate reporting of employee pension fund conditions should be included the annual prospectus.

Increasing the Effectiveness of the General Government's Revenue System

Adherence to sound financial management practice should also include increasing the effectiveness of a general government's revenue system. I have defined the effectiveness of a general government's revenue system as: the efficiency (=E) of revenue collections; over the costs (=C) of enforcement.

$$E/C = \text{Effectiveness of a revenue system}$$

In measuring the numerator, the efficiency component of a given revenue system; two principle considerations should be made. They are:¹.

1. Do revenues suffice to cover expenditures in the general government's fiscal year?
2. Have revenue collections been stable?

The components making up E can be objectively quantified in the following manner. Assignment of numerical values based upon the general government's fiscal year surplus (+), or deficit (-) is a possible measure for consideration #1. The value is represented by a $\pm x$. This x value can be weighted by consideration #2. A measure for consideration #2 is accomplished by examining the revenue system for the number of periods necessary to obtain an accurate measure of stability (or instability). The weighting factor would be expressed as a measure of variance in the given revenue system. The variance is labelled as t.

Efficiency of a revenue system can therefore be measured by the adequacy of revenues to cover expenditures, $\pm x$, and weighted by the stability of revenue collections, t.

$$E = (\pm x) t$$

-
1. This system is adequate in a stable economy since it is based upon historical data. However, in a growing economy a projective component x' should be substituted. The model for a growing economy would be:

$$E' = (\pm x') t$$

In measuring the denominator, or cost component, of a revenue system, an assignment of productivity measures (p) based on the costs of collection are necessary. For the sum of the sub-costs, there is a productivity factor assigned;

$$C = [c_a + c_b + c_c + \dots + c_n] p$$

In the case of a property tax revenue system; the sub-costs, c's, would represent billings, re-assessments, and labor. These costs are summed and multiplied by a productivity measure for the property tax system. Productivity measures, in this case, include considerations of general government policies on property-tax abatements, cancellations, and litigation.

Obviously increasing the efficiency and productivity, or decreasing the costs, results in a higher measure of effectiveness. Comparisons among alternative revenue systems and adoption of the method whose effectiveness coefficient is the highest (netting out political considerations) should maximize the effectiveness and hence represents sound financial management for a general government.

Follow Sound Principles of Public Finance

General governments in following sound financial management practices should adopt revenue systems based upon sound theories of "public finance". These include concerns about equity, adequacy, and incidence of revenue systems. Embracing these principles in formulation of a general government's revenue systems and their incidence lessens the chance of litigation and the possibility of revenue failure. Even challenges to methods of revenue collection can have a financial and politically unstablizing effect on a general government.

Public finance considerations should include the effects of taxation on the competitive position of a general government to attract rateables into its tax base. This is an important factor to consider in that the relative amount or degree of taxation affects the future viability of a general government and hence the credit quality of its obligations. Relatively higher levels of taxation on an intra- community scale affects the ability of a jurisdiction to attract new businesses; hence an expansion of a borrower's tax base is arrested. Obviously, variations in the effect of state and local taxes on the locational decisions of businesses and people must be recognized. Where possible, revenue systems with the lowest negative impact on a general government's competitive position should be sought.

1. Such was the case with California's, *Serrano v. Priest* and New Jersey's *Robinson v. Cahill* decisions declaring the property-tax as a violation of "equal protection". As stated in the court decision, the property tax as a means of funding education at the local level, results in inequalities, with the quality of a student's education being a function of where his parents happen to live.

Timing the Budget Submission

The last controllable financial management factor of significance, in reducing the issuer's cost of borrowing in the market, is in the submission of the budget. Sound financial management requires that a budget be in effect at all times. This means that an issuing government must have a final budget adopted before the completion of the preceding year. In this way, no gaps in expenditure financing occur, as with the "interim budget".

Consistent adoption of budgets on time, indicate to the market a solid working relationship between the administrative and legislative branches of the issuing government. Early adoption of the budget indicates smooth and responsible financial management in the jurisdiction. Such qualities are very important should any problems occur to upset the revenue/expenditure flows of the general government.

Sound Debt Management

Sound debt management is the ability of general governments to structure their debt to minimize the risk of default by carefully planning and scheduling the provisions contained in its obligations. The principle considerations to be made on an issue include: guarantees, repayment methods, repayment periods, annual repayment dates, and the length of maturity.

Use of Guarantees

In arranging a general government's debt, two principle methods of enhancing the quality of the issue and hence reducing the costs of borrowing exists. Issuer protection from the risk of default comes in the form of contingent support as guaranteed by a stronger government of higher credit standing. Guarantees extended to a weaker government unit can either be direct and unconditional or partial and conditional.

A direct and unconditional guarantee contains two elements. First, it promises to pay principal and interest if the original debtor is unable to, and second, it pledges full faith and credit of the guarantor to perform in the event of a default.

Lesser degrees of protection are afforded by partial guarantees that pre-requisite acts be performed prior to a guarantor's payment. These include actions such as:

- proof of non-payment by the original obligor.
- evidence that non-payment has persisted beyond a stated number of days

and - evidence that the original obligor has exhausted application of all available revenues.

These partial and highly conditioned guarantees may add some protection during periods of prolonged or chronic debt difficulty, but this group of guarantees does not actually assure punctual payment. It is therefore not necessarily a guarantee against default. In fact, some partial guarantees are activated only after default.

The effect of partial guarantees in reducing the costs of borrowing is a fallacy. In fact, demanders in the market have associated such pledges as devices used by issuers in failing situations. Further, demanders have viewed such issues, not as an enhancement of a guarantee's ability to repay, but rather as another party to be sued in the event of a default. With the likelihood of default slim, however, a more important reason general government's should avoid partially guaranteed issues is that such obligations must command higher yields in order to clear the market. The reasoning behind this fact is that the added provisions complicate the legal considerations for an investor while not significantly enhancing the original obligor's obligations.

Should a general government choose to enhance its creditstanding through a direct guarantee, the guarantee should seek a guarantor with a high availability of funds in the event of an actual default.

Repayment Method

As described in Chapter Four, various methods of debt repayment impute distinctive patterns of charges over the payback period. Sound debt management practice should seek to match an issuer's anticipated future revenue trend to debt service payments. Selection of the most suitable method of repayment minimizes the difficulty in repayment and the likelihood of a cash stringency problem which could result in refunding in the short term, or even default.

Since the straight serial method of repayment involves a steady decrease in debt-service over time, the highest proportion and level of charges are paid in the early periods. Straight serial repayment accordingly affords the strongest credit protection to the investor. This is because the prospects of meeting debt-service in future periods is reasonably assured since annual charges decrease over time.

Use of this repayment pattern should be strongly used by:

1. Infrequent borrowers with an adequate revenue base.
2. General governments who have a low operating (expenses/revenues) ratio.
3. General governments who expect revenue streams to decline or stabilize in future periods.
4. General governments who expect to borrow additional capital in the future.

The serial annuity method of repayment is the alternative for general government whose revenues are inflexible; and cannot be increased in early periods to utilize straight serial repayment. Users of this

method of repayment generally lack immediate expansionability subject to considerable fluctuations in revenues, where scheduling greater than average annual payments could impose cash stringency problems on the issuer. This is a most common pattern of repayment for public-service, quasi-public enterprises, and other "limited liability" issuers.

Irregular or deferred repayments produce irregular and fluctuating debt-service patterns. Legitimate reasons for scheduling repayments in this manner are difficult to justify and should be avoided by general governments.¹

1. As noted in Chapter Four, this method of debt-service repayment when used in conjunction with a call provision can postpone debt retirement indefinitely.

Repayment Period

Determining the time over which a general government's debt is retired is a factor governing the cost of borrowing. Known as the payback, or repayment period, annual payments of interest and amortization of principal should be based on practical assumptions of anticipated revenues.

To digress a moment, a popular myth related to government borrowing is the belief that by shortening the payback period interest is saved. However, interest is simply the "hire of money", there is no savings in the strict sense when money is hired for a shorter, than a longer period of time, because less is obtained for the money spent.

Therefore, scheduling unrealistically high debt-service charges to minimize the cost of borrowing is not sound debt management. Rather, the payback period should be correlated exactly to the economic life of the project, or improvement, being financed with the bond proceeds. Shorter payback periods do not save interest but rather increase the risk of repayment difficulties. On the other hand, longer periods would mean that at some point in the future, taxpayers will be paying for an improvement or facility whose use and benefit they are not enjoying. Inequities in this situation may result in difficulties in revenue collection. Sound debt management, therefore, means that debt retirement must be scheduled directly with the economic life of a project. Where obsolescence does not seem a factor, rules of thumb on

repayment of municipal bonds should be:¹

approximately 5% per year

25% within the first five years

50% within the first ten years

based on a twenty year straight serial.

The rate at which debt is retired has an impact on the ability of future participation, as well as to prevent inequities in payments to benefits. If future plans in a general government include issuance of additional debt; rapid retirement of existing debt is necessary to hold down "total" accumulation of debt. A slow rate of debt retirement could raise the outstanding debt to levels which result in 1. the legal inability to borrow (given legal debt limits) or 2. the volume is deemed so high that it represents an incurrence of additional debt above the issuer's ability to repay.

As seen in Chapter Two, borrowing by state and local governments have corresponded to cyclical swings in the economy. A final consideration, in determining the repayment period, is that debt management practice should adopt the policy of retiring debt as much as possible during downturns in the economy; to be prepared for debt expansion in the economy's upswing.

1. O. Oldman, F. Schoettle, State and Local Taxes and Finance, "Debt Financing" p.727.

Scheduling Annual Repayment Dates

Sound debt management also requires that annual schedules of interest and principal repayment be planned so that cash is on-hand during the due dates. For instance, should the general government receive the principle flow of revenues in the latter half of the year, while maturities fall early in the year, temporary debt difficulties could result.

Scheduling annual debt service repayment dates should also be timed to coincide with cyclical availability of funds in the debt markets. That is "avoidance" of payment dates during the time of year in which the federal government is heavily in the debt markets is advisable. In this manner, if cash stringency problems appear imminent, with refunding as the course of action, a lower short term rate would more likely be the case than if the general government competed in the markets against Federal Government securities.

Financing on Borrowed Capital

A final point relating to general government debt management, is the myth that income in a community is increased by financing facilities or improvements with borrowed capital. To the extent that labor and materials are purchased locally, this is temporarily true, since bonds are usually bought by investors located outside an issuer's jurisdiction. However, borrowed capital flows back to demanders at repayment, with the eventual export of capital reducing, in the long term, income to the local (and state) economy. In fact, where labor and materials must be imported, the economic benefits of financing and construction income are exported.

This is not to argue against debt financing, but rather to reinforce the above points that borrowing in the municipal bond market must be carefully planned along sound debt management practices.

Externally Controlled Factors
Influencing Municipal Bond Participation

Just as important as factors governing the internal soundness of an issuer, are the external factors related to the marketing of the debt in the municipal bond market. Adherence to the following points should help to significantly improve the placement of the debt and reduce the total cost of participation for issuers in the market.

Credit Ratings

The national credit rating agencies, Moody's Investors Service and Standard and Poor's Corp., have one of the most powerful influences on the placement of an issuer's obligations in the market. Market opinion of issuers is strongly influenced by the investment grade assigned an issuer's obligations as evidenced in 10 - 1.

Lower grade issuers, it seems, have interest rate differentials greater than higher rated issuers. Yield spreads between the "Baa - Ba" class range an average of 35 basis points, while "Aaa - Aa" yields range an average 13 basis points. This greater spread in yields for lower rated governments indicates that a greater emphasis on improving the external factors in reducing costs of borrowing should be undertaken.

Exhibit 10 - 1

INTEREST COST DIFFERENTIALS AMONG RATING GRADES

Differential Between Grades	Study (Period)		
	Phelps ¹ (1957-58)	Kessel ² (1959-67)	Petersen ³ (1964-1971)
Aaa-Aa	21	15	13
Aa-A	33	21	19
A-Baa	33	25	30
Baa-Ba	—	—	35
From: Aaa-Baa	87	61	62

¹Charlotte DeMonte Phelps, "The Impact of Tightening Credit on Municipal Capital Expenditures in the United States," *Yale Economic Essays*, Vol. 1 (Fall 1961), p. 300. In Phelps's equation, interest cost differentials between rating classes vary in proportion to the Federal Government's long-term bond rate. The figures above were calculated upon the assumption that the long-term bond rate was 3 percent.

²Reuben A. Kessel, "A Study of the Effects of Competition in the Tax-Exempt Bond Market," *Journal of Political Economy* (Sept. 1971). Instead of using the net interest cost of the issue as the dependent variable in his equation, Kessel used the difference between the twenty-year reoffering yield and White's Yield of 100. Standard & Poor's ratings were used instead of Moody's. Kessel's data sample included more than 9000 bond issues that appeared between 1959 and 1967, with virtually complete coverage of competitively offered issues that were larger than \$1,000,000.

³John E. Petersen, "A Note on the Determinants of Municipal Bond Net Interest Costs" (unpublished), 1972. See summary of study at end of this chapter.

Source: Twentieth Century Fund, *The Rating Game*, Feb. 1974, p.45.

To improve a government's ability to market its debt, issuers should maintain a strong relationship with the rating agencies. Whether dissatisfaction with a rating is founded, or not, issuers should do all within their power to present their situation in the most favorable light. Obviously, lower rated issuers should consult more closely with the agencies in an effort to correct for deficiencies or faults in their creditworthiness. Such actions would hopefully lead to an upgrading and the eventual improvement in the marketability of the debt.

The ratings are so important, that it is not uncommon for general governments to consult with the agencies even before an issue is formally proposed.

Bond Counsel

The bond counsel's contribution to a general government's marketing of the debt is to provide a written legal opinion that the bonds issued are valid. Specifically, his duties include examining and reviewing bond proceedings, resolutions, ordinances, and election documents; in the case of a bond referendum. The factor to consider in choosing a bond counsel is his/her established reputation in the municipal bond market. As with bond ratings, legal opinions are a significant factor influencing the marketing of an issuer's debt. Seeking legal opinion from established or nationally recognized attorneys is very important, since some institutional buyers will not purchase bonds unless the counsels are known

to them by reputation.

Financial Consultants

Since all but the largest borrowers enter the municipal bond market less than once a year, the role of the financial consultant in providing the technical expertise in bringing an issue to market is an important factor. Large law firms, commercial banks, and investment banking firms have exclusively engaged in consulting to state and local governments. Technical aspects of a bond including: the indenture, official statement, notice of sale, bid forms, bond printing & delivery, etc. are arranged in close working relationship with the issuer's finance officers.

As summarized in the JEC Report on Capital Needs and Financing, the financial consultant's role includes the following:¹

1. Surveys issuer's debt structure and financial resources to determine borrowing capacity for future capital financing requirements.
2. Gathers all pertinent financial statistics and economic data such as debt retirement, tax rates, etc. that would effect the issuer's ability to repay.
3. Advises on the time and method of marketing, i.e. terms of the issue, maturity schedule, payment dates, call, and bidding limitations.
4. Prepares an overall financing plan with recommended approach and probable timetable.

1. JEC, State and Local Public Facility Needs and Financing, "Municipal Financial Consultants" Chap. 10, by A. Guastella.

5. Prepares in cooperation with the bond counsel, official statement, notice of sale, bid forms, and distributes same to all prospective buyers and underwriters.
6. Keeps in contact with the rating services to insure that they have all the information and data required.
7. Supervises the printing, signing, and delivery of the bonds.

Public Relations

Preparation of the bond prospectus, or the summary of the financial and economic conditions of a general government should be prepared by the chief finance officer of the issuer. Since sound financial management of the issuer is so important to the investment community, it is advisable that a general government demonstrate its capabilities and knowledge of the jurisdiction's conditions by assembling the prospectus in-house, rather than through financial consultants (role #5).

Maintaining direct personal contacts with key investors in the market is also important. Buyers in the market, it seems, are inclined to pass over issuers which they are not familiar with, in favor of those for which they have had experience with, or adequate information on. As mentioned in Chapter Eight, buyers in the market display a greater tendency towards buying issues which they have bought in the past -- a "name issue preference." A good seller's strategy is to make major buyers fully aware of the merits of their offerings by maintaining direct personnel contacts with the major buyers, investment community, and rating agencies. Alan Rabinowitz, in his book, Municipal Bond Finance and

Administration, notes that to sell a proposed issue, some general governments and their underwriters have even gone to the point of giving prospective buyers a tour of the area, "... to inspire greater confidence in the merits of their offerings." ¹ Such actions, as far-fetched as it may seem, demonstrate the importance of maintaining a good relationship with buyers and the wide range of methods used in accomplishing that goal.

Advertising in the "Bond Buyer" and important local and state newspapers and financial papers which carry either large regional and national circulation is of great importance in establishing market credibility.² The key factor in advertising a bond issue is to place adequately and properly the "notice of sale." Wide distribution to the underwriting and bond buying community will serve to stimulate increased demand and an eventual marketplace for the issue at the lowest costs.

In addition to paid advertisements, it is advisable that general governments circulate news stories giving additional details about its jurisdiction. Such articles could provide favorable information about the issuer, but not relevant enough to be carried in an advertisement or offering circular.

In the case where voter referendum is necessary to authorize the sale of a bond issue, it is desirable to thoroughly air the advantages of the issue. Enlisting the support of key organizations such as the League

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1. A. Rabinowitz, Municipal Bond Finance and Administration, 1969, p.56
 2. Others may include The Wall Street Journal, Barron's, Moody's Investors Service Publications, Standard & Poors Publications, and the Investment Dealer's Digest.

of Women Voters, Taxpayer leagues, and local chamber of commerce can help to promote a bond issue. Publicity informing the public of a project's merits through public service programs, spot T.V., radio, and newspaper advertisements, posters, door-to-door visiting campaigns, and statements by prominent officials and citizens emphasizing the need for the proposed bond issue will help to insure successful referendum votes. Additionally, such publicity allows for complete public understanding of the borrowing needs and decreases the likelihood of litigation related to the ill-perceived or unknown outcomes of an inadequately publicized bond issue.

Following the referendum vote, a large majority vote, or highly favorable referendum authorizing an issue will provide a good marketing factor in influencing buyers to undertake the bonds.

Timing of the Debt¹

Finally, proper debt management practice requires that the borrowing be placed into the market at a time which will ensure proper placement. That is, bonds should be placed into the market at the least interest cost to the issuer -- known as the "top of the market."

The principle factors to consider in successful completion of bond placement should involve:

1. Placing the issue when comparable tax-exempt supplies are at a low or less than demand.

1. As was already mentioned in Chapter Ten, with tight money conditions, a borrowing government can do nothing except exercise its option of staying away from debt-issuance until "uncontrolled" money market conditions ease.

2. Placement into the market when dealer inventories of comparable tax-exempts are low.
3. Watching the placement pace of comparable issues.

Avoidance during certain times of the year when Federal Income Taxes are due -- such periods are generally characterized by a scarcity of money, and consequently reduced demand.

Timing of the debt should also involve the day of week in which an issuer comes to market (Bid Date). Market placement is usually the strongest on Tuesday because it enables prospective bidders to hold a meeting on Monday. After winning the bid, the Tuesday bid date gives the winning bidder, or underwriter, the remainder of the week to distribute and sell the bonds. The importance of timing the debt down to such minute detail becomes more important as the size of the issue increases and/or the perceived creditworthiness or marketability of the issue decreases.

The overall rule in timing the placement of an issue is to sell when the market wants to lend; thus assuring the issue proper placement at the lowest interest cost to the general government.

Summary

The factors as cited above have encompassed broad policy-type categories which state and local governments should recognize and act upon to reduce their costs of borrowing in the municipal bond market. These major policy points, however, can be detailed into more specific recommendations. The following is a listing of specific points based upon the major policy groupings discussed in Chapter

The most important recommendation for state and local governments to follow in reducing the costs of borrowing is to improve their marketability by providing adequate and timely financial and debt information to all participants in the market. The specific types of information which should be gathered include:

Financial Information Recommendations

Annual financial reports, balance sheets, and income statements showing sources of funds, outflows, and standard operating ratios.

Annual budgets.

Past revenue and expenditure trends.

Capital budget: including on-going and planned improvements in the future.

Assessed valuation of the jurisdiction's real estate.

Reporting of employee pension fund conditions.

Tax rates of government unit, compared with overall rates of overlapping government units such as city, school, county, and water and sewer districts.

Tax collections - including amount of delinquencies, and frequency of collection during the calendar year.

Debt Information Recommendations

Amount of overlapping debt.

Debt service trends in past.

Long term debt of all types.

Short term debt of all types.

Debt repayment schedule

Comparative trends of debt-service in the past and planned for the future.

Legal tax limit of the issuer.

Timing Recommendations

Set date of sale when direct competition, in terms of similar offerings by type of obligation, state of issuance, maturity, etc. is low.

Arrange for convenient "day-of-bid" allowing the winning bidders to distribute the issue to investors completely before the end of the week(optimal day-of-bid is usually Tuesday).

Bond Counsel and Financial Consultant Recommendations

Retain bond counsel and financial consultant with extensive experience in the laws of the issuing jurisdiction (and state).

Retain counsel whose opinion is marketable.

Have consultants and counsel advise when is the most advantageous time to enter the market.

Public Relations Recommendations

Gain support among officials, influential citizens, and local interest groups to effect a favorable bond referendum vote.

Maximize advance-of-sale publicity to local, regional, and national media to facilitate final placement of the issuer's obligations.

Prepare comprehensive prospectus; including in addition to financial and debt information, key data on

economic and demographic data identifying resources of the jurisdiction.

trends in personal and business income.

population data with comparisons to overlapping jurisdictions (i.e. population of sewer district, school district, etc.).

size of retail, commercial, and industrial zones.

selling costs of new construction in the jurisdiction.

PART IV

CONCLUSION

CHAPTER ELEVEN

CONCLUSION

From the outset, this thesis has attempted to comprehensively examine both statiscally and theoretically the relationships and problems that exist in the municipal bond market. With its audience being the state and local government borrower, it has secondly, attempted to delve beyond these problems to indicate the significant factors which issuers, especially the problem borrowers must understand and control when participating in the muncipal bond market.

In Part II of this thesis, an analysis of municipal bond supply and demand figures concentrating primarily from the period 1960-1975 has shown that a tiering or segmentation of issuers in the market has resulted.

In moving beyond aggregate figures of municipal bond supply and demand, we have seen that the tremendous expansion in the supply of tax-exempt bonds has been used increasingly for other than the traditional purposes of municipal financing, such as school, highways, and water and sewer projects. In the late 1960s, and first half of the 1970s, municipal financing has expanded in scope to include issuance of non-traditional purpose tax-exempt bonds, such as pollution control financing, housing market support, hospital construction, and a variety of publicly financed, but privately operated facilities. This increased

The impact of this increased supply has been most felt by the large urban borrowers, especially in the northern quadrant of the United States, and the small unsophisticated borrower who are new to the market.

The analysis on the demand side has examined demand trends of the three major investors in the market, namely commercial banks, fire and casualty insurance companies, and households. An analysis of demand participation also concludes that changes in demand have been most detrimental to the large urban borrowers.

Specifically, commercial banks, the major holder of municipals has significantly decreased annual purchases of tax-exempts due principally to changes in operating policies. New issue demand preferences by commercial banks have been seen to be in the shorter term, higher quality obligations and not the traditional obligations, especially the longer term, lower quality city issues.

Fire and Casualty Insurance Company investments in the municipal bond market have been in the longer term, higher yielding tax-exempts. This group of investors has therefore, bought higher yielding revenue bonds -- not traditional obligations of the larger cities.

The household sector, the third major participant in the market is dominated by the increasingly important municipal bond funds. Growing as the major investor within the household sector, an analysis of the municipal bond funds concludes that this subgroup has moved towards buying solely high grade (AA rated issues) and prime grade (AAA rated issues), thus precluding participation in the lower quality cities.

Further analysis also shows that buying trends of the municipal bond funds, representing an increasing percentage of the total household sector's demand, appears to be in high quality revenue bonds and not traditional obligation and certainly not the large, lower quality city obligations.

Given the structural problems in the municipal bond market and the resultant tiering of borrowers in the market, the third part of this thesis has sought to provide specific factors which state and local governments can act upon to decrease their costs of borrowing. The factors described in Part III are particularly geared towards the problem borrowers or fourth tier of larger urban issuers, in that this group of borrowers must improve the marketability and creditworthiness of its obligations.

The analysis in Part III is differentiated by controllable and non-controllable factors influencing municipal bond participation. Presenting the most significant factors influencing borrowing costs, state and local governments must be aware of the uncontrollable factors, and if possible minimize their impact. This includes understanding the effects of factors such as:

Monetary policy and tight money - which drives interest rates up and the general increase in borrowing costs for all debt markets.

Federal Tax Policies - with changes in their regulations drastically affecting demanders, such as changes in life insurance tax regulations in the late 1950s decreasing this groups holdings from 9% of the market in the 50's to virtually nothing in the 60's.

Inflation - which has increased the costs of constructing public facilities, increased the uncertainty of demand, and negatively affected the expenditure/revenue picture for state and local governments.

Competing demands for capital - with alternative investments such as corporate bonds and U.S. Government securities also competing for funds in the capital markets any changes in alternative borrowers' after-tax-yields, volume of supply, and credit quality will visibly impact upon state and local governments' ability to market their debt and the costs for securing the funds.

Understanding the uncontrollable factors influencing participation of state and local government borrowing, issuers could avoid the market during tight money or switch planned long-term borrowing into short term notes. During inflationary periods, issuers could again postpone borrowing and, where possible, resort to maintaining a facility with current expenditures, rather than having to construct a new facility, requiring the general government to enter the bond market.

The controllable factors influencing participation in the municipal bond market can directly affect a general government's costs of borrowing if acted upon correctly. That is state and local government borrowers can reduce its costs of borrowing by supplying the correct types of information to prospective buyers (as detailed in sound financial management), adopting the correct repayment method based upon the general governments cash flow situation, and maintaining a sound fiscal picture (as detailed in Summary, Chap. 10 Financial Information Recommendations). Additionally, state and local government issuers in marketing their debt should select bond counsel with experience in the municipal bond market. The same advice applies to financial consult-

ants. Timing the issuance of a general obligations will help to assure placement of an issue when comparable obligations are low and demand is high. These major points if followed correctly by state and local governments could help to significantly increase the marketability and reduce the borrowing costs for issuers participating in the tax-exempt municipal bond market.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Advisory Commission on Intergovernmental Relations, City Financial Emergencies: The Intergovernmental Dimension, Washington D.C., July, 1973
- Bogen, Jules I., Financial Handbook, Fourth Edition, New York, Ronald Press, 1968.
- The Bond Buyer, Special Conference Issue #1: Municipal Finance Officers Association of U.S. and Canada, Kansas City, Missouri, June 3 - 7, 1973.
- The Bond Buyer, Special Convention Issue #1: The Money Manager, December 1, 1975; Special Convention Issue #2, December 22, 1975.
- Crosse, Howard D., and Hempel, George H., Management Policies for Commercial Banks, 2nd Edition, Englewood Cliffs, Prentice-Hall 1973.
- Darst, David M., The Complete Bond Book: Guide to Fixed Income Securities, New York, McGraw-Hill, 1975.
- Ecker-Racz, L.L., The Politics of State and Local Finance, Englewood Cliffs, N. J., Prentice-Hall, 1970.
- Fabbri, Brian, Commercial Bank Investment in the Post-War Period, New York, 1975.
- "Cities and States Riding a Fiscal Yo-Yo", First National City Bank of New York, Monthly Economic Letter, New York, August, 1975.
- "A Citizen's Strike Against Big Spending," First National City Bank of New York, Monthly Economic Letter, New York, December, 1975.
- Federal Reserve System, Board of Governors, Historical Chart Book, 1975, Washington, D.C., 1975.
- Federal Reserve System, Flow of Funds 1945 - 1972 (plus supplements) Washington, D.C.
- Friedman, Benjamin, "Determination of Long-Term Interest Rates; Why Were Bond Yields So High in 1974?", Discussion Paper 417, Harvard Institute of Economic Research, Cambridge, Mass. June, 1975.

"Tightening the Bond Market", Forbes, March 1, 1976, p. 22.

Fortune, Peter, "Tax Exemption of State and Local Payments; An Economic Analysis of the Issues and an Alternative", New England Economic Review, May/June, 1973

Fortune, Peter, "Financial Impact of the Federal Water Pollution Control Act: The Case for Municipal Bond Reform" Discussion Paper 439, Harvard Institute of Economic Research, Cambridge, Mass., October, 1975.

Henssler, Gene W., "Higher Profits from Lower Rated Municipals", Autumn, 1973, Bankers Magazine.

Hempel, George H., The Postwar Quality of State and Local Debt, National Bureau of Economic Research, New York, 1971.

Heufner, Robert P., Taxable Alternatives to Municipal Bonds, Federal Reserve Bank of Boston, Research Report #53, 1973.

"State Housing Finance Agencies", Housing & Development Reporter, Washington, D.C., November 17, 1975.

Kimball, Ralph C., "States as Financial Intermediaries", New England Economic Review, January/February, 1976.

McGouldrick, Paul F., and Peterson, John E., "Monetary Restraint and Borrowing and Capital Spending by Large State and Local Governments in 1966", Federal Reserve Bulletin, July, 1968.

Moak, Lennox L., Administration of Local Government Debt, Municipal Finance Officers Association of U.S. and Canada, Chicago, 1970.

Moak, Lennox L., Local Government Finance: Concepts and Practices, Municipal Finance Officers Association of U.S. and Canada, 1975.

Moody's Investors Service, Moody's Bond Survey, New York, November 24, 1975 - December 29, 1975.

Morris, Frank E., "Restructing the Municipal Bond Market", New England Economic Review, January/February, 1971

Municipal Market Developments - Monthly Statistical Bulletin, S.I.A. Economic Research Department, New York, November, 1975 - June, 1976.

O'Conner, James, The Fiscal Crisis of the State, St. Martins, New York, 1973.

- Oldman, Oliver, and Schoettle, Ferdinand P., State and Local Taxes and Finance, Foundation Press, New York, 1974.
- Peterson, John E., The Rating Game, Twentieth Century Fund, New York, 1974.
- Peterson, John E., "Response of State and Local Governments to Varying Credit Conditions", Federal Reserve Bulletin, March, 1971
- Rabinowitz, Alan, Municipal Bond Finance and Administration, Wiley-Interscience, New York, 1969.
- Rose, Sanford, "Trouble With Municipal Bonds is Not Just New York", Fortune, December, 1975.
- Rosenbloom, Richard H., "A Review of the Municipal Bond Market", Economic Review, March/April, 1976.
- Rubinfeld, Daniel Lee, "An Econometric Analysis of the Market for General Obligations", Unpublished Phd. Thesis, M.I.T., 1972.
- Schneiderman, Paul, "Planned and Actual Long Term Borrowing by State and Local Governments", Federal Reserve Bulletin, December, 1971.
- Securities Industries Association, Fundamentals of Municipal Bonds, French -Bray Printing, New York, 1973.
- Securities Industries Association, "Tax Exempt Securities and the Investor" New York, 1974.
- Statistics on State and Local Government Finance" The Bond Buyer, New York, June, 1975.
- U.S. Commerce Department, U.S. Bureau of Census, City Government Finances, 1973 - 1974; 1972 - 1973; 1971 - 1970.- 1971.
- U.S. Commerce Department, U.S. Bureau of Census, State Government Finances, 1973 - 1974; 1972 - 1973; 1971 - 1970.
- U.S. Congress, Joint Economic Committee, Changing Conditions in the Market for State and Local Government Debt, 1976.
- U.S. Congress, Joint Economic Committee, State and Local Public Facility Needs and Financing, Two volumes, (selected articles), December, 1966.
- U.S. Congress, Senate, Committee on Banking, Housing, and Urban Affairs. New York City Financial Crisis, 94th Congress, 1st sess. October, 1975.
- Weekly Bond Buyer, The Bond Buyer (selected articles, October, 1975 - August 2, 1976) New York.